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**2018 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE  
ACTION REPORT**

**ALABAMA POWER COMPANY  
PLANT GORGAS GYPSUM POND**



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**Report Electronically Submitted - January 31, 2019**

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## ABBREVIATIONS

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
CFR	Code of Federal Regulations
COC	chain of custody
DO	dissolved oxygen
EPA	United States Environmental Protection Agency
ft	feet
GW	groundwater
m	meter
mg/L	milligram per liter
MSL	mean sea level
MW-	denotes "Monitoring Well"
NELAP	National Environmental Laboratory Accreditation Program
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
SM	Standard Method(s)
SSI	statistically significant increase
SSL	statistically significant level
TAL	Test America, Inc.
TOC	top of casing
TDS	total dissolved solids
USGS	United States Geological Survey



## **1.0 INTRODUCTION**

In accordance with the United States Environmental Protection Agency's (EPA) coal combustion residual (CCR) rule (40 C.F.R. Part 257, Subpart D) and the State of Alabama's ADEM Admin. Code Chapter 335-13-15, this 2018 Annual Groundwater Monitoring and Corrective Action Report has been prepared to document the 2018 initial assessment and two semi-annual groundwater monitoring activities at the Plant Gorgas Gypsum Pond and to satisfy the requirements of §257.90(e) and ADEM Admin. Code r. 335-13-15-.06(1)(f). Initial assessment monitoring, semi-annual monitoring, and associated reporting for Plant Gorgas Gypsum Pond 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).

## **2.0 SITE LOCATION AND DESCRIPTION**

Alabama Power Company's William C. Gorgas Electric Generating Plant (Plant Gorgas) is located in southeastern Walker County. The physical address is 460 Gorgas Road, Parrish, AL 35580. Plant Gorgas lies in portions of Sections 7, 8, 9, 16, 17, 18, 19, 20, 21, 28, and 29, Township 16 South, Range 6 West and Section 12, 13, and 24, Township 16 South, Range 7 West. Section/Township/Range data are based on visual inspection of USGS topographic quadrangle maps and GIS maps (USGS, 1975; USGS, 1983).

The Gypsum Pond is located west- northwest of the main plant and to the north of Black Warrior River. **Figure 1, Site Location Map**, depicts the location of the Plant and Gypsum Pond with respect to the surrounding area.

## **3.0 SITE GEOLOGY AND HYDROGEOLOGY**

### **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 to over 500 feet MSL north of the Gypsum Pond. Generally, the land surface slopes from north to south and towards the Mulberry Fork of the Warrior River.

### **3.2 Geology and Hydrogeology**

Plant Gorgas lies in the Warrior Basin physiographic region (Sapp and Emplaincourt, 1975), a late Paleozoic basin formed as a result of flexure and sediment loading associated with Appalachian and Ouachita orogenies. The bedrock geology is dominated by clastic sedimentary rocks of the Lower Pottsville Formation as shown on **Figure 2, Site Geologic Map** (GSA, 2010b). 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. Strip mining was conducted over a large portion of the area down to the American Seam of the Pratt Coal Group. As a result, the overburden beneath the disposal facilities is dominated by backfilled mine materials 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 from field investigations indicate the

thickness of mine backfill materials ranges between 10 and 160 feet below ground surface (BGS). The stratigraphy beneath the backfilled mine materials generally consists of mudstone with interbedded sandstone and some thin, un-named coal seams.

### **3.3 Uppermost Aquifer**

The principal aquifer system from a local and regional perspective is the Pottsville Formation. The Pottsville Formation is also the uppermost aquifer beneath the site for site groundwater monitoring purposes. Backfilled mine materials were largely dry in borings conducted at the site. Borings and geophysical testing were conducted to depths between 50 and 307 feet BGS around the perimeter of the Gypsum Pond, but groundwater yield sufficient for sampling, was only encountered south of the Gypsum Pond. At these locations, groundwater was observed in coal and sandstone stratigraphy close to the top of rock – backfilled mine material interface.

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).

#### 4.0 GROUNDWATER MONITORING SYSTEM AND ACTIVITY

Pursuant to §257.91 and ADEM Admin. Code r. 335-13-15-.06(2), Plant Gorgas has installed a groundwater monitoring system to monitor groundwater within the uppermost aquifer. The certified groundwater monitoring system for the Plant Gorgas Gypsum Pond is designed to monitor groundwater passing the waste boundary of the CCR unit within the uppermost aquifer. Wells were located to serve as upgradient and 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. As required by § 257.90(e) and r. 335-13-15-.06(1)(f), the following also describes monitoring related-activities performed during the preceding year.

##### 4.1 Groundwater Monitoring System

The groundwater monitoring network is comprised of 7 monitoring wells. As required by §257.90(e)(1) and ADEM Admin. Code r. 335-13-15-(1)(f)1, monitoring well locations referenced to the Gypsum Pond are presented on **Figure 3, Monitoring Well Location Map. Table 1, Groundwater Monitoring Well Network Details**, summarizes the monitoring well construction details and design purpose for the Plant Gorgas Gypsum Pond.

In total, 17 well or exploratory boring locations were attempted around the perimeter of the Gypsum Pond to depths between 50 and 307 feet BGS. Geophysical, hydrogeophysical, and purging were employed at locations to further assess hydrogeological conditions and identify water bearing zones. Attempts at installing upgradient well locations west, north, and east of the Gypsum Pond were unsuccessful; therefore, 4 locations upgradient of the nearby Plant Gorgas landfills were selected on the basis of similar geology. Each of these sites are located within the same coal group sequence of the Pottsville and contain backfilled mine material overburden. Monitoring well locations MW-1, MW-2, MW-3, and MW-4 serve as upgradient locations for Gorgas Gypsum Pond.

Monitoring well locations GS-GSA-MW-3, GS-GSA-MW-4, and GS-GSA-MW-8 are utilized as downgradient locations for the Gypsum Pond. The 3-downgradient monitoring well locations were installed in the valley south of the Gypsum Pond and at lower elevations. These locations capture groundwater draining through the valley occupied by the Gypsum Pond. Given that the valley is narrow from west to east (approximately 800 to 1200 feet across) these wells intercept preferential draining for the site and are sufficient to monitor groundwater downgradient of the Gypsum Pond.

<b>Table 1. Groundwater Monitoring Well Network Details</b>								
<b>Well Name</b>	<b>Installation Date</b>	<b>Northing</b>	<b>Easting</b>	<b>Ground Elevation</b>	<b>Top of Casing Elevation</b>	<b>Top of Screen Elevation</b>	<b>Bottom of Screen Elevation</b>	<b>Purpose</b>
MW-1	1/15/2014	1330794.064	594082.361	499.19	502.38	405.10	395.10	Upgradient
MW-2	10/23/2014	1331053.309	593548.802	498.54	502.17	417.90	407.90	Upgradient
MW-3	10/23/2014	1330842.402	593025.397	522.23	525.90	417.10	407.10	Upgradient
MW-4	2/19/2012	1330289.727	592896.414	516.67	517.89	400.40	390.40	Upgradient
GS-GSA-MW-3	12/8/2015	1329120.128	2054772.316	439.75	442.63	323.35	313.35	Downgradient
GS-GSA-MW-4	12/9/2015	1329235.421	2054872.732	439.44	442.10	344.64	334.64	Downgradient
GS-GSA-MW-8	12/20/2015	1328959.796	2054804.925	401.33	404.38	286.33	276.33	Downgradient

Notes:

1. Northing and easting are in feet relative to the State Plane Alabama West North America Datum of 1983.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.

#### 4.2 Monitoring Well Installation and Maintenance

There was no change to the groundwater monitoring system in 2018; the network remained the same as in the 2017 (previous) reporting year. Monitoring well-related activities were limited to the following: Visual inspection of well conditions prior to sampling, recording the site conditions, and performing exterior maintenance to perform sampling under safe and clean conditions.

#### 4.3 Assessment Monitoring

Based on results of the 2017 Annual Groundwater and Corrective Action Monitoring Report, Alabama Power initiated an assessment monitoring program on January 15, 2018. Pursuant to 40 CFR § 257.95(a) ADEM Admin. Code r. 335-13-15-.06(6)(a), monitoring wells were sampled for Appendix IV parameters in February 2018, within 90 days of initiating the assessment monitoring program. Pursuant to 40 CFR 257.95(d) and ADEM Admin. Code r. 335-13-15-.06(6)(d) monitoring wells were subsequently sampled for Appendix III and Appendix IV parameters in June and October 2018. The June 2018 event was conducted within 90 days of obtaining the results from the February 2018 sampling event. Samples were collected from wells in the Professional Engineer (PE)-certified monitoring systems shown on **Figure 3**. A summary of groundwater sampling events completed in 2018 is provided in **Table 2, Compliance Sampling Events Summary**.

Analytical data from the initial assessment and semi-annual monitoring events are included as **Appendix A, Groundwater Analytical Data**, in accordance with the requirements of §257.90(e)(3) and ADEM Admin. Code r. 335-13-15-.06(1)(f)3.

<b>Table 2. Compliance Sampling Events Summary</b>			
	Sampling Purpose	Constituents Sampled	Laboratory Receipt Date
Compliance Event 1	Initial Assessment	Appendix IV	04/13/2018
Compliance Event 2	Assessment Monitoring	Appendices III and IV	07/24/2018
Compliance Event 3	Assessment Monitoring	Appendices III and IV	1/2/2019

#### 4.4 Additional Groundwater Sampling

Additional groundwater sampling was performed in October to further characterize groundwater quality at the site. Groundwater samples were collected following the procedures described in Section 5.0. Analytical results are included in **Appendix A**. Additional sampling was completed for the following analytes:

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- Alkalinity, Total
- Bicarbonate Alkalinity
- Calcium, Total
- Carbonate Alkalinity
- Chloride
- Conductivity
- Dissolved Oxygen
- Dissolved Solids
- Iron, Dissolved
- Iron, Total
- Magnesium, Total
- Manganese, Dissolved
- Manganese, Total
- ORP
- pH
- pH for Alkalinity
- Potassium, Total
- Sodium, Total
- Sulfate
- Temperature
- Turbidity

## 5.0 SAMPLING METHODOLOGY AND ANALYSIS

The following describes the methods used to conduct assessment monitoring at the Plant Gorgas Gypsum Pond.

### 5.1 Groundwater Flow Direction, Gradient, and Velocity

Prior to each sampling event, groundwater levels were measured and recorded to the nearest 0.01 foot within a 24-hour period from the certified well network and piezometers. Groundwater levels recorded during the monitoring events are summarized in **Table 3, Groundwater Elevations Summary 2018**. Groundwater levels and top of casing elevations were used to calculate groundwater elevation and develop the potentiometric surface elevation contour map provided as **Figures 4 through 6, Potentiometric Surface Contour Map(s)**. The general direction of groundwater flow is from north to south. The groundwater flow pattern observed during the 2018 monitoring events is consistent with historic observations.

<b>Table 3</b>				
<b>Groundwater Elevations Summary 2018</b>				
<b>Well ID</b>	<b>Top of Casing Elevation (feet MSL)</b>	<b>Groundwater Elevations (feet MSL)</b>		
		<b>Feb-18</b>	<b>Jun-18</b>	<b>Oct-18</b>
		MW-1	502.38	411.02
MW-2	502.17	419.34	417.08	416.44
MW-3	525.9	418.49	415.77	414.92
MW-4	517.89	401.93	401.27	399.56
GS-GSA-MW-3	442.63	332.79	336.36	332.37
GS-GSA-MW-4	442.1	353.06	351.52	349.56
GS-GSA-MW-8	404.38	320.01	324.40	319.03

Groundwater flow rates at the site were calculated based on hydraulic gradients, hydraulic conductivity from previous slug test results in mine spoil materials, and an estimated effective porosity of the screened horizon. Based on slug test data at the site, hydraulic conductivity averages  $2.26 \times 10^{-3}$  cm/sec or 6.4 feet per day, which is used in the flow calculations. The hydraulic gradient was calculated between well pairs



shown on **Table 4, Flow Rate Calculation**. An effective porosity of 15% was used. 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 ( $\frac{feet}{day}$ )
- $K$  = Average permeability of the aquifer ( $\frac{feet}{day}$ )
- $i$  = Horizontal hydraulic gradient
- $n_e$  = Effective porosity

Using this equation, groundwater flow velocity is calculated for various areas of the site and is tabulated on **Table 4**. **Table 4** presents the velocity calculated using groundwater elevation data from the sampling events in 2018.

<b>TABLE 4. Flow Rate Calculation</b>								
<b>Date</b>	<b>K</b>	<b><math>\eta_e</math></b>	<b>MW-4</b>	<b>MW-8</b>	<b><math>\Delta h</math></b>	<b>L</b>	<b>i</b>	<b>v</b>
10/17/2018	6.4	0.15	349.56	319.03	30.53	250	0.12	5.12 ft/d

*\*Elevations in ft MSL, K in ft/d,  $\Delta h$  (head difference) and L (horizontal distance) in ft, v (flow velocity) in ft/d*

As presented on **Table 4**, groundwater flow velocity at the site is approximately 5.12 feet/day across the site. 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 Gypsum Pond to lower topographic elevations to the south. 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. Thus, groundwater flow paths across the site may be tortuous.

## 5.2 Groundwater Sampling

Groundwater samples were collected 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 whereby samples are collected when field

water quality parameters (pH, turbidity, conductivity, and dissolved oxygen) were measured to determine stabilization. Groundwater samples were collected when the following stabilization criteria were 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 a SmarTroll 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.

### **5.3 Laboratory Analysis**

Laboratory analyses was performed by the APC Environmental Laboratory (APCEL) in Calera, Alabama or Test America, Inc. (TAL), of Pensacola, Florida and St. Louis, Missouri. Both APCEL and TAL are accredited by National Environmental Laboratory Accreditation Program (NELAP) and maintain a NELAP certification for all parameters analyzed. Groundwater data and chain of custody records for the monitoring events are presented in **Appendix A**.

### **5.4 Quality Assurance/Quality Control**

During each sampling event, quality assurance/quality control samples (QA/QC) were collected at a rate of one sample per every 10 detection samples. Equipment blanks and duplicate samples were also collected during each sampling event. QA/QC sample data was evaluated during data validation and is included in **Appendix A**.

Groundwater quality data for the most recent sampling event was validated for the most recent sampling event following guidance from the EPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001); the EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011); and the analytical methods. Data validation generally consisted of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, matrix spikes/matrix spike duplicate recoveries and relative percent differences, post digestion spikes, laboratory and field duplicate RPDs, field and equipment blanks, and reporting limits.

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Where appropriate, validation qualifiers and flags are applied to the data using the procedures in EPA National Functional Guidelines for Inorganic Data Review (USEPA, 2014), as guidance. Flagged data is identified in the statistical analysis reports.

## 6.0 STATISTICAL ANALYSIS

Statistical analysis of Appendix III and IV groundwater monitoring data was performed on samples collected from the certified groundwater monitoring network pursuant to 40 CFR §257.93 and ADEM Admin. Code r. 335-13-15-.06(4) and following the appropriate PE-certified method. The statistical method used at the site was developed by Groundwater Stats Consulting, LLC. (GSC), in accordance with 40 CFR §257.93(f) and ADEM Admin. Code r. 335-13-15-.06(4)(f) using methodology presented in *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance*, March 2009, EPA 530/R-09-007 (USEPA, 2009).

### 6.1 Statistical Methods

The Sanitas groundwater statistical software was 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 USEPA regulations. Although Assessment Monitoring has been implemented, statistical evaluation of Appendix III constituents is performed to determine if constituents have returned to background conditions. Statistical analysis was performed using methods described in the PE-certified statistical analysis plan for the site.

#### 6.1.1 Appendix III Constituents

Statistical tests used to evaluate the groundwater monitoring data consist of interwell and intrawell prediction limit methods, combined with resampling strategies for each method. Intrawell prediction limits, combined with a 1-of-2 verification resample plan, were used for pH, sulfate, and TDS to determine whether there has been a statistically significant increase (SSI) over background groundwater quality. Interwell prediction limits, combined with a 1-of-2 verification resample plan, were used to evaluate boron, calcium, chloride, and fluoride. Intrawell prediction limits use 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.

A summary table of the statistical limits accompanies the prediction limits in **Appendix B, Statistical Data Evaluation**.

### 6.1.2 Assessment Monitoring Statistics

Parametric tolerance limits were used to calculate background limits from 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 upon the number of background samples. The background limits were then used when determining the groundwater protection standard (GWPS).

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

- (1) The maximum contaminant level established under §141.62 and 141.66 of this title (the “MCL”).
- (2) Where an MCL has not been established:
  - (i) Cobalt 6 micrograms per liter (ug/l);
  - (ii) Lead 15 ug/l;
  - (iii) Lithium 40 ug/l; and
  - (iv) Molybdenum 100 ug/l.
- (3) Background levels for constituents where the background level is higher than the MCL or rule-specified GWPS.

Existing ADEM Admin Code r. 335-13-15 includes boron as an Appendix IV assessment monitoring parameter; therefore, it is included in the statistical analysis for the site. As explained in the Preamble to the federal CCR rule, the GWPSs listed above for cobalt, lead, lithium, and molybdenum are USEPA-established “Regional Screening Levels” (RSLs) that are used where an MCL has not been established. Following the procedure used by USEPA for the federal CCR rule, the USEPA-established RSL for boron (4.0 mg/L) was used as a GWPS for statistical comparison of boron data. **Table 5, Summary of Background Levels and Groundwater Protection Standards**, summarizes the background limit established at each monitoring well.

<b>Table 5. Summary of Background Levels and Groundwater Protection Standards</b>			
<b>Analyte</b>	<b>Units</b>	<b>Background</b>	<b>Groundwater Protection Standard</b>
Antimony	mg/L	0.003	0.006
Arsenic	mg/L	0.005	0.01
Barium	mg/L	0.015	2
Beryllium	mg/L	0.0071	0.004
Boron	mg/L	0.05844, 0.1	4.0
Cadmium	mg/L	0.00351, 0.00393	0.005
Chromium	mg/L	0.0105	0.1
Cobalt	mg/L	0.738, 0.49	0.006
Fluoride	mg/L	0.4971, 0.5245	4
Lead	mg/L	0.005	0.015
Lithium	mg/L	0.237, 0.2764	0.04
Mercury	mg/L	0.0005	0.002
Molybdenum	mg/L	0.01	0.1
Selenium	mg/L	0.0209	0.05
Thallium	mg/L	0.001	0.002
Total Radium-226/228	pCi/L	1.174, 1.156	5

**Notes:**

1. Where 2 numbers are present, they denote the different background levels and background-derived GWPS for each of the 2 semi-annual monitoring events in the order that they were determined.

**6.2 Statistical Analysis Results**

Analytical data from the 2018 semi-annual monitoring events in June and October were statistically analyzed in accordance with the PE-certified Statistical Analysis Plan (October 2017). Appendix III statistical analysis was performed to determine if constituents have returned to background levels. Appendix IV assessment monitoring parameters were evaluated to determine if concentrations statistically exceeded the established groundwater protection standard.

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

### **6.2.1 First Semi-Annual Groundwater Monitoring Event**

Statistical analysis of Appendix IV data identified the following statistically significant levels (SSLs) over GWPS at the listed wells:

- GS-GSA-MW-3: Lithium
- GS-GSA-MW-4: Lithium

### **6.2.2 Second Semi-Annual Groundwater Monitoring Event**

During the second semi-annual assessment monitoring event, statistical analysis of Appendix IV data identified the following SSL over GWPS:

- GS-GSA-MW-3: Lithium

## **7.0 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 SSLs of Appendix IV parameters were identified at the Plant Gorgas Gypsum Pond during sampling events conducted in 2018. Alternate Source Demonstrations (ASDs) have not been completed for Appendix IV constituent exceeding the GWPS; therefore, in accordance with § 257.95(g)(3)(i) and ADEM Admin. Code r. 335-13-15-.06(6)(g)4(i), APC will implement assessment of corrective measures as required by §257.96 and ADEM Admin. Code r. 335-13-15-.06(7).



## **8.0 CONCLUSIONS AND FUTURE ACTIONS**

Based on results reported in the *2017 Annual Groundwater and Corrective Action Monitoring Report*, APC initiated an assessment monitoring program on January 15, 2018. Groundwater samples were subsequently collected from the certified well network and analyzed for Appendix IV parameters.

The certified compliance monitoring well network was resampled on a semi-annual basis, occurring in June and October 2018. The groundwater samples were analyzed for all Appendix III & IV parameters and the Appendix IV data from the semi-annual events were statistically evaluated relative to GWPS. Statistical evaluations of the June and October 2018 assessment monitoring data identified SSLs of Appendix IV constituents above the GWPS.

Additional groundwater samples were collected to further characterize groundwater quality. An ASD was not prepared to address the Appendix IV SSLs. APC will characterize the nature and extent of GWPS exceedances as required by §257.95(g)(1) and ADEM Admin. Code r. 335-13-15-.06(6)(g)2. and perform an assessment of corrective measures pursuant to §257.96 and ADEM Admin. Code r. 335-13-15-.06(7).

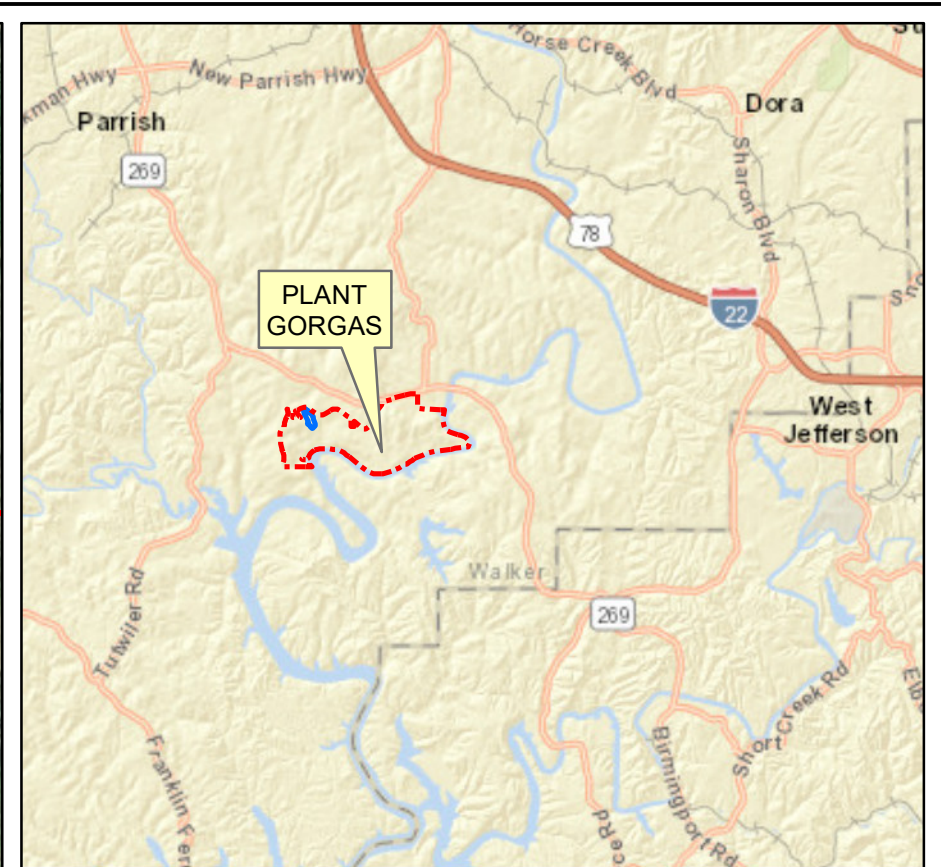
The first semi-annual assessment monitoring event is planned for March or April 2019.

## 9.0 REFERENCES

- ASTM Standard D5092, 2004(2010)e1, Standard Practice for Design and Installation of Groundwater Monitoring Wells, ASTM International, West Conshohocken, PA, DOI 10.1520/D5092-04R10E01, [www.astm.org](http://www.astm.org)
- Diehl, S.F., Goldhaber, M.B., and Hatch, J.R., 2004, Modes of occurrence of mercury and other trace-elements in coals from the warrior field, Black Warrior Basin, Northwestern Alabama, *International Journal of Coal Geology*, v. 59, p. 193-208
- Geological Survey of Alabama (GSA), 2010b, Digital Geologic Map of Alabama, URL: <http://www.gsa.state.al.us/index.html>, accessed November, 2010.
- Goldhaber, M.B., Lee, R.C., Hatch, J.R., Pashin, J.C., and Treworgy, J., 2002, The role of large-scale fluid flow in subsurface arsenic enrichment, In: Welch, A., Stollenwerk, K (Eds.), *Arsenic in Ground Water: Occurrence and Geochemistry*, v. 5, p. 127-176
- Jennings, S.P., and Cook, M.R., 2010, A Report to the Hanceville Water Works and Sewer Board, Open File Report 1001
- Raymond, D.E., Osborne, W.E., Copeland, C.W. Jr, and Neathery, T.L., 1988, Alabama Stratigraphy: Alabama Geological Survey Circular, v. 140, p. 1-97
- Sapp, C.D., and Emplainscourt, J., 1975, Physiographic regions of Alabama, Special Map 168, Geological Survey of Alabama
- U.S. Environmental Protection Agency (EPA), 2004, Evaluation of Sampling and Field-Filtration Methods for the Analysis of Trace Metals In Groundwater Project Summary, EPA/600/SR-94/119
- USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March
- USEPA. 2011. Data Validation Standard Operating Procedures. Science and Ecosystem Support Division. Region IV. September
- USEPA. 2014. National Functional Guidelines for Inorganic Superfund Data Review. Office of Superfund Remediation and Technology Innovation (OSRTI). August
- USEPA. 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. *40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*. [EPA-HQ-RCRA–2009–0640; FRL–9919–44–OSWER]. RIN–2050–AE81. April
- Ward II, W.E., Barnett, R.L., Rheams, L.J., 1989, Coal Resources of Walker County, Alabama, Geological Survey of Alabama, Special Map 205

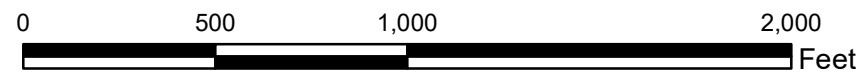
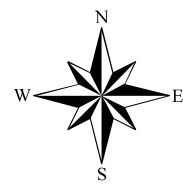
# Figures





**Legend**

- Gypsum Storage Area Boundary
- Property Boundary (Approximate)



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**Southern Company Generation  
Earth Science and Environmental Engineering**

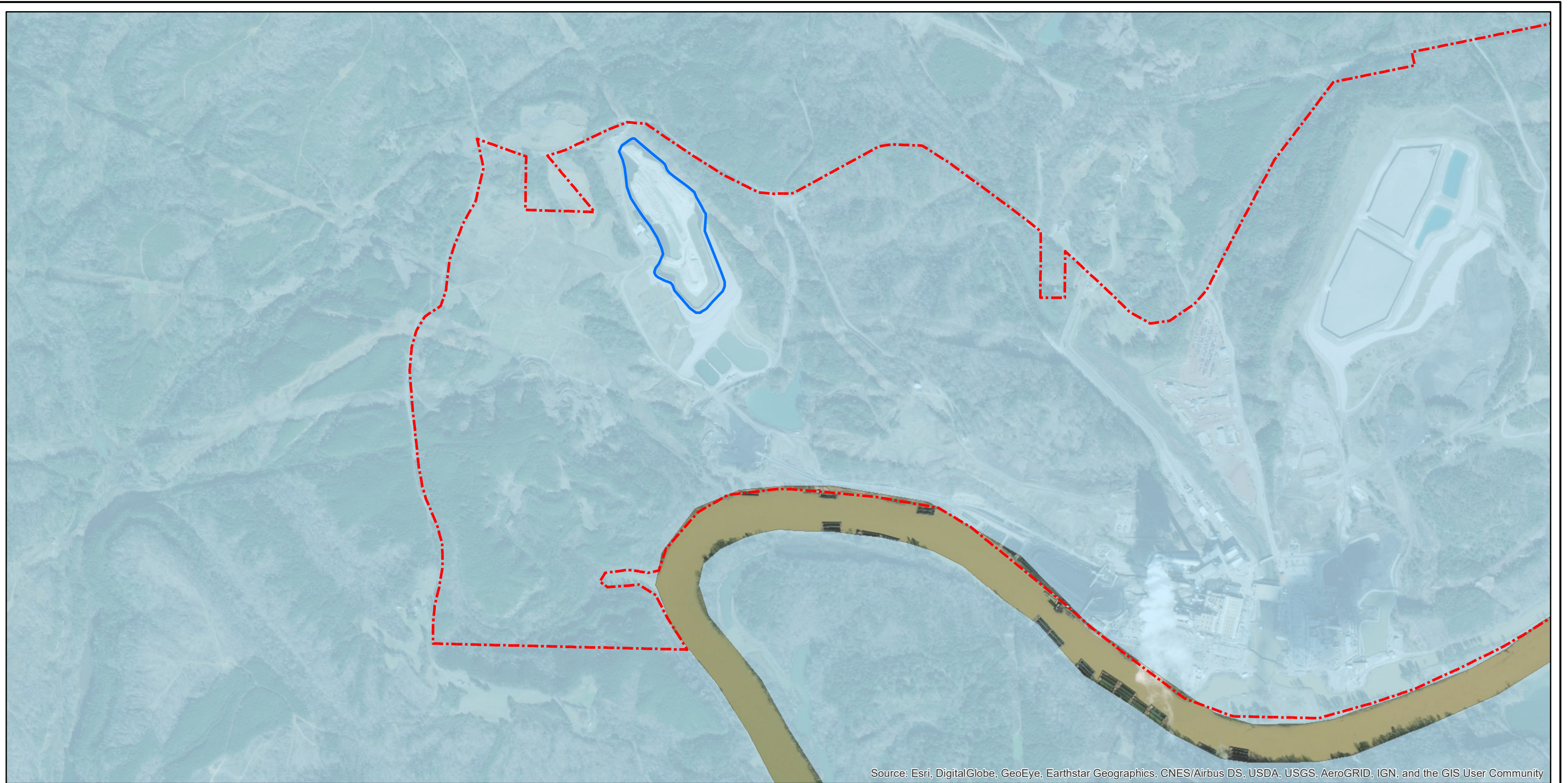
**FOR**

**Alabama Power Company**

**FIGURE 1  
SITE LOCATION MAP  
PLANT GORGAS GYPSUM POND**


SCALE	PROJ. I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:6k		FIGURE 1	1		







Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

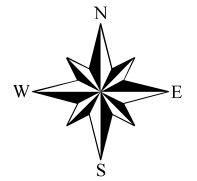
**Legend**

 Gypsum Storage Area Boundary

 Property Boundary (Approximate)

**Geologic Units**

 Pottsville Formation (upper part), Appalachian Plateaus



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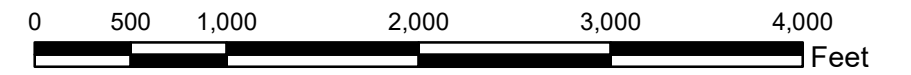
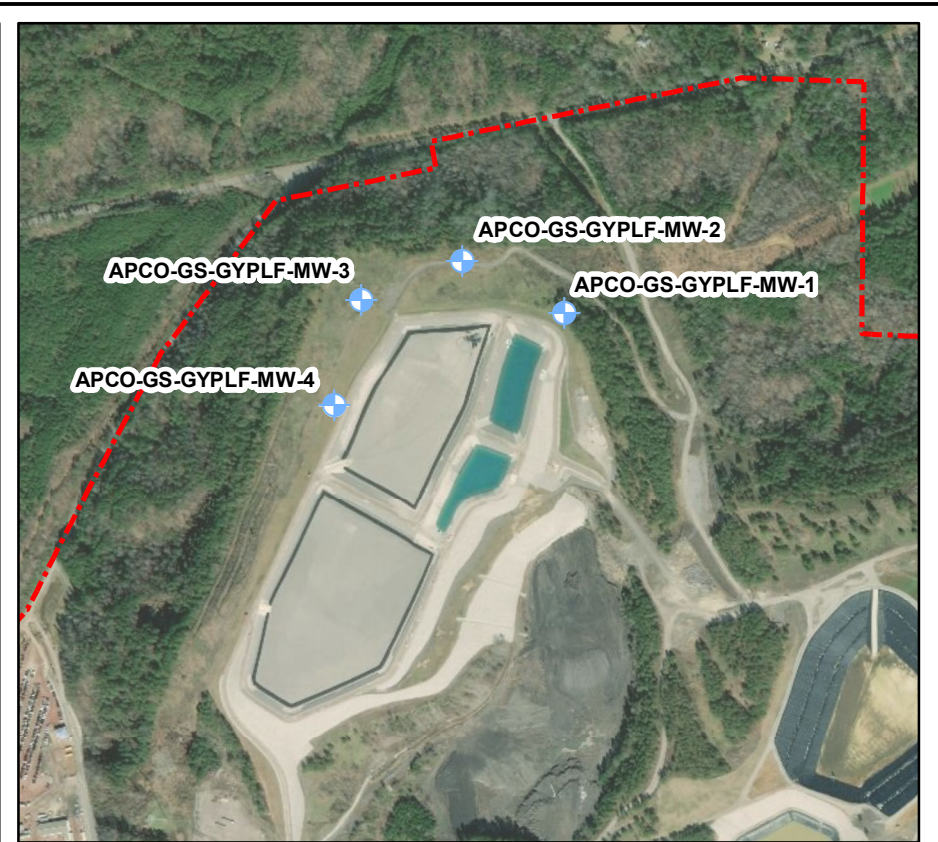
**FIGURE 2**  
**SITE GEOLOGIC MAP**  
**PLANT GORGAS GYPSUM POND**

**Southern Company Generation**  
**Earth Science and Environmental Engineering**





**FOR**

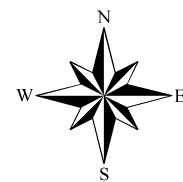
<b>Alabama Power Company</b>					
SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
		FIGURE 2	1		





**Legend**

-  Gypsum Storage Area Monitoring Well
-  Gypsum Landfill Background Well
-  Gypsum Storage Area Boundary
-  Property Boundary (Approximate)



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**FIGURE 3**  
MONITORING WELL LOCATION MAP  
PLANT GORGAS GYPSUM POND

**Southern Company Generation**  
**Earth Science and Environmental Engineering**

FOR

**Alabama Power Company**

SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:5k		FIGURE 3	1		

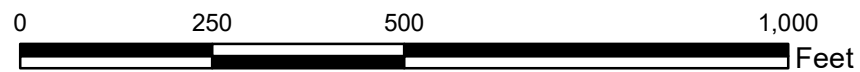
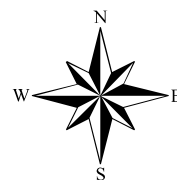




**Legend**

- ◆ Monitoring Well
- Potentiometric Surface Contour (ft NAVD88)
- Approximate Groundwater Flow Direction
- Gypsum Storage Area Boundary
- Property Boundary (Approximate)

**GS-GSA-MW-3** Well ID  
332.79 Groundwater Elevation



NOTE: ft NAVD88 indicates feet above North American Vertical Datum of 1988.

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**FIGURE 4**  
**POTENTIOMETRIC SURFACE MAP**  
**FEBRUARY 2018**  
**PLANT GORGAS GYPSUM POND**

**Southern Company Generation**  
**Earth Science and Environmental Engineering**

**FOR**

**Alabama Power Company**

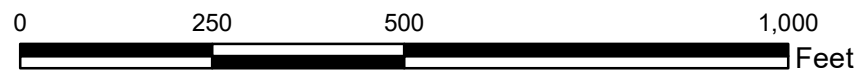
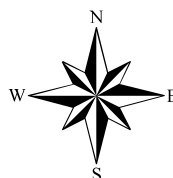
SCALE	PROJ. I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:6k		FIGURE 4	1		





**Legend**

- ◆ Monitoring Well
  - Potentiometric Surface Contour (ft NAVD88)
  - Approximate Groundwater Flow Direction
  - Gypsum Storage Area Boundary
  - Property Boundary (Approximate)
- |                    |                       |
|--------------------|-----------------------|
| <b>GS-GSA-MW-3</b> | Well ID               |
| 336.36             | Groundwater Elevation |



NOTE: ft NAVD88 indicates feet above North American Vertical Datum of 1988.

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**FIGURE 5**  
**POTENTIOMETRIC SURFACE MAP**  
**JUNE 2018**  
**PLANT GORGAS GYPSUM POND**

**Southern Company Generation**  
**Earth Science and Environmental Engineering**

FOR

**Alabama Power Company**

SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:6k		FIGURE 5	1		

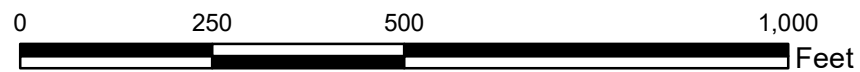
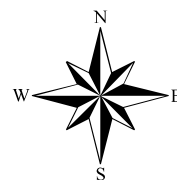




**Legend**

- ◆ Monitoring Well
- Potentiometric Surface Contour (ft NAVD88)
- Approximate Groundwater Flow Direction
- Gypsum Storage Area Boundary
- Property Boundary (Approximate)

**GS-GSA-MW-3** Well ID  
332.37 Groundwater Elevation



NOTE: ft NAVD88 indicates feet above North American Vertical Datum of 1988.

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**FIGURE 6**  
**POTENTIOMETRIC SURFACE MAP**  
**OCTOBER 2018**  
**PLANT GORGAS GYPSUM POND**

**Southern Company Generation**  
**Earth Science and Environmental Engineering**

**FOR**

**Alabama Power Company**

SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:6k		FIGURE 6	1		



# Appendix A

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

## **Field Case Narrative**



# **Gorgas Gypsum Pond**

## **Assessment 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).

Upgradient samples (MW-1, MW-2, MW-3 and MW-4) located near the landfill were collected by B. Rothschadl, while downgradient samples (MW-3, MW-4 and MW-8) located at the gypsum pond were collected by A. Goggins. Field and sample data for the upgradient locations were also used for the Gorgas Landfill CCR Assessment Event 1.

Field quality control procedures were performed as follows:

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

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

# Analytical Report



**Sample Group :** WMWGORG\_1135

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


**For :** Southern Company Services  
42 Inverness Center Parkway  
Birmingham, AL 35242

**Attention :** Dustin Brooks & Greg Dyer


**Released By :** Sarah Copeland  
sgcopela@southernco.com  
(205) 664-6121

The following data has been reviewed and approved by:

Quality Control: Sarah  
Copeland

 Digitally signed by Sarah Copeland  
DN: cn=Sarah Copeland, o=ou,  
email=sgcopela@southernco.com,  
c=US  
Date: 2018.03.15 15:53:20 -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: 2018.03.23 15:02:33 -05'00'

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

## Case Narrative

 Alabama Power



Fluoride

Gorgas Gypsum

WMWGORG\_1135

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 samples were outsourced to Test America, Pensacola for analysis. There is no job narrative for these samples, as there were no issues.



Metals ICP

Gorgas Gypsum

WMWGORG\_1135

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY04014	20180226BK	WMWGORG_1135
AY04015	20180226BK	WMWGORG_1135
AY04016	20180226BK	WMWGORG_1135
AY04017	20180226BK	WMWGORG_1135
AY04018	20180226BK	WMWGORG_1135
AY04019	20180226BK	WMWGORG_1135
AY04020	20180226BK	WMWGORG_1135
AY04021	20180226BK	WMWGORG_1135
AY04022	20180226BK	WMWGORG_1135
AY04023	20180226BK	WMWGORG_1135

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 passed.
- 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 spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- All sample internal standard criteria were met.
- The high standard readbacks associated with EPA 200.7 were within acceptance criteria.



- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. All samples were analyzed at a x2.03 dilution to compensate for any potential matrix effects.
  8. The raw data results include results corrected for dilution.



Metals ICPMS

Gorgas Gypsum

WMWGORG\_1135

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY04014	613307	WMWGORG_1135
AY04015	613307	WMWGORG_1135
AY04016	613307	WMWGORG_1135
AY04017	613307	WMWGORG_1135
AY04018	613307	WMWGORG_1135
AY04019	613307	WMWGORG_1135
AY04020	613307	WMWGORG_1135
AY04021	613307	WMWGORG_1135
AY04022	613307	WMWGORG_1135
AY04023	613307	WMWGORG_1135

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.





Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.
- 
7. All samples were analyzed at a dilution of 1 to 5 to compensate for any matrix effects.
  8. The raw data results are shown with dilution factors included.



Mercury

Gorgas Gypsum

WMWGORG\_1135

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY04014	612903	WMWGORG_1135
AY04015	612903	WMWGORG_1135
AY04016	612903	WMWGORG_1135
AY04017	612903	WMWGORG_1135
AY04018	612903	WMWGORG_1135
AY04019	612903	WMWGORG_1135
AY04020	612903	WMWGORG_1135
AY04021	612903	WMWGORG_1135
AY04022	612903	WMWGORG_1135
AY04023	612903	WMWGORG_1135

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

#### General Quality Control Procedures:

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



Matrix Specific Quality Control Procedures:

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

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

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY04014

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0121	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	0.00544	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	0.00145	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.190	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	0.274	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00498	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.63	mg/L

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY04014

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec	Limit
				Limit	Spike				Limit	Rec	Limit	Prec		
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20	
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20	
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20	
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20	
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20	
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20	
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20	
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20	
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20	
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20	
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20	
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20	
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20	

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY04014

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	Limit	Rec	Prec
							Duplicate	LCS		Limit	Prec

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

CC:

Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Certificate Of Analysis



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY04015

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0118	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	0.00387	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.124	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	0.508	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00267	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.57	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY04015

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20

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.

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010



Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY04015

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Limit	Prec	Limit
							Duplicate	LCS						

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY04016

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0249	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00492	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	0.163	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.15	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY04016

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY04016

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	Limit	Rec	Prec
							Duplicate	LCS		Limit	Prec

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Comments: Test America, Pensacola NELAP ID: E81010

CC:

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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AY04017

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0125	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	0.00515	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	0.00135	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.191	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	0.270	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00449	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.36	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AY04017

Sample	Analysis	Units	MB	MB			LCS			Rec		Prec	
				Limit	Spike	MS	MSD	LCS	Limit	Rec	Limit	Prec	Limit
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AY04017

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Limit	Prec	Limit
							Duplicate	LCS						

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.

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY04018

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010



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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY04018

Sample	Analysis	Units	MB				LCS			Rec		Prec	
			MB	Limit	Spike	MS	MSD	LCS	Limit	Rec	Limit	Prec	
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY04018

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	Limit	Rec	Limit	Prec	Limit
							Duplicate	LCS					

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY04019

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY04019

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec	Limit
				Limit	Spike				Limit	Rec	Limit	Prec		
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20	
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20	
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20	
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20	
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20	
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20	
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20	
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20	
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20	
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20	
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20	
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20	
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20	

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY04019

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	Limit	Rec	Prec
							Duplicate	LCS		Limit	Prec

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Laboratory certification ID: E571114

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Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY04020

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00937	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	0.00180	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0620	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	J 0.0233	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00211	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.14	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY04020

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit
			Limit	MB					Limit	Rec	Limit	Prec		
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20	
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20	
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20	
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20	
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20	
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20	
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20	
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20	
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20	
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20	
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20	
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20	
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY04020

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	Limit	Rec	Limit	Prec	Limit
							Duplicate	LCS					

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.

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

CC:



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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY04021

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0127	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0179	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	0.0615	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.22	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY04021

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY04021

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Limit	Prec	Limit
							Duplicate	LCS						

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CC:

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 744 County Road 87, GSC#8  
 Calera, AL 35040  
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 FAX (205) 257-1654

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY04022

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00821	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	0.00232	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00661	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	0.0964	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0209	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.27	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

**Comments:** Test America, Pensacola NELAP ID: E81010  
 Lithium LCS was double spiked. Result passes for spike amount. SGC 3/9/18

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY04022

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit	
			Limit	MB					Limit	Rec	Limit	Prec			
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115		96.9	70 to 130		0.576	20
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046		97.9	70 to 130		0.507	20
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115		104	70 to 130		0.268	20
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115		94.5	70 to 130		1.07	20
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23		123	70 to 130		0.844	20
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115		92.0	70 to 130		0.0036620	20
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115		103	70 to 130		1.32	20
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115		97.2	70 to 130		1.41	20
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115		95.5	70 to 130		3.25	20
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115		95.2	70 to 130		0.383	20
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115		103	70 to 130		1.75	20
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115		98.6	70 to 130		1.29	20
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115		93.7	70 to 130		0.106	20

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.

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Laboratory certification ID: E571114

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Expiration: June 30, 2018

**Comments:** Test America, Pensacola NELAP ID: E81010  
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 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY04022

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	Limit	Rec	Prec
							Duplicate	LCS		Limit	Prec

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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY04023

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	0.0111	mg/L
* Beryllium, Total	DLJ	2/27/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cadmium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	2/20/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	2/26/2018	EPA 200.7		2.03	0.01	0.05	J 0.0446	mg/L
* Molybdenum, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.002	0.01	J 0.00403	mg/L
* Thallium, Total	DLJ	2/21/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Fluoride, Total, by Test America	SGC	3/8/2018	SM 4500 F_C		1	0.032	0.10	0.38	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

Comments: Test America, Pensacola NELAP ID: E81010

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY04023

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit
			Limit	MB					Limit	Rec	Limit	Prec		
AY04023	Cobalt, Total	mg/L	0.0000139	0.0044	0.10	0.104	0.104	0.104	0.085 to 0.115	104	70 to 130	0.268	20	
AY04023	Thallium, Total	mg/L	0.00000381	0.00044	0.10	0.0945	0.0955	0.102	0.085 to 0.115	94.5	70 to 130	1.07	20	
AY04023	Arsenic, Total	mg/L	0.0000122	0.0022	0.10	0.103	0.105	0.104	0.085 to 0.115	103	70 to 130	1.75	20	
AY04023	Beryllium, Total	mg/L	0.0000317	0.00132	0.10	0.0986	0.0974	0.104	0.085 to 0.115	98.6	70 to 130	1.29	20	
AY04023	Chromium, Total	mg/L	0.0000136	0.0044	0.10	0.0937	0.0938	0.0943	0.085 to 0.115	93.7	70 to 130	0.106	20	
AY04022	Lithium, Total	mg/L	-0.000100	0.022	0.40	0.588	0.583	0.375	0.17 to 0.23	123	70 to 130	0.844	20	
AY04023	Molybdenum, Total	mg/L	0.0000119	0.0044	0.10	0.0920	0.0920	0.0909	0.085 to 0.115	92.0	70 to 130	0.0036620	20	
AY04023	Selenium, Total	mg/L	0.0000243	0.0044	0.10	0.107	0.106	0.105	0.085 to 0.115	103	70 to 130	1.32	20	
AY04023	Barium, Total	mg/L	0.00000826	0.0044	0.10	0.108	0.110	0.0986	0.085 to 0.115	97.2	70 to 130	1.41	20	
AY04023	Cadmium, Total	mg/L	0.00000286	0.00066	0.10	0.0955	0.0987	0.103	0.085 to 0.115	95.5	70 to 130	3.25	20	
AY04023	Lead, Total	mg/L	0.00000301	0.0022	0.10	0.0952	0.0956	0.0990	0.085 to 0.115	95.2	70 to 130	0.383	20	
AY04023	Antimony, Total	mg/L	0.0000468	0.00132	0.10	0.0969	0.0975	0.0974	0.085 to 0.115	96.9	70 to 130	0.576	20	
AY04023	Mercury, Total by CVAA	mg/L	-0.00000914	0.0005	0.004	0.00392	0.00390	0.00395	0.0034 to 0.0046	97.9	70 to 130	0.507	20	

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# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 13-Feb-18  
 Customer ID:  
 Delivery Date: 15-Feb-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY04023

Sample	Analysis	Units	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Limit	Prec	Limit
							Duplicate	LCS						

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Laboratory certification ID: E571114

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CC:

## Definitions



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
B	Analyte found in reagent blank. Indicates possible reagent or background contamination.
E	Estimated reported value exceeded calibration range.
J	Reported value is an estimate because concentration is less than reporting limit.
N	Organic constituents tentatively identified. Confirmation is needed.
R	Matrix spike recovery is out of range.
U	Compound was analyzed, but not detected.
P	Precision is out of range.
C	Analyte was verified by re-analysis.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.
L	Check standard is outside of the required specification limit.
D	All samples were stored at less than or equal to 6 °C and for no longer than 48 hours from time of sampling, unless otherwise noted.
F	Water Field Group (WFG) qualifier; see comments for more information





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-149783-1

TestAmerica Sample Delivery Group: Gorgas Gypsum 1135

Client Project/Site: CCR Plant Gorgas

For:

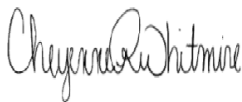
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

2/28/2018 10:14:06 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

[cheyenne.whitmire@testamericainc.com](mailto:cheyenne.whitmire@testamericainc.com)

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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Detection Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

## Client Sample ID: AY04014 MW-4

## Lab Sample ID: 400-149783-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.63		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04015 MW-3

## Lab Sample ID: 400-149783-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.57		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04016 MW-8

## Lab Sample ID: 400-149783-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.15		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04017 MW-4 DUP

## Lab Sample ID: 400-149783-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.36		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04018 FB-1

## Lab Sample ID: 400-149783-5

No Detections.

## Client Sample ID: AY04019 EB-1

## Lab Sample ID: 400-149783-6

No Detections.

## Client Sample ID: AY04020 MW-1L

## Lab Sample ID: 400-149783-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.14		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04021 MW-2L

## Lab Sample ID: 400-149783-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.22		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04022 MW-3L

## Lab Sample ID: 400-149783-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.27		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

## Client Sample ID: AY04023 MW-4L

## Lab Sample ID: 400-149783-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.38		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

# Method Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

Method	Method Description	Protocol	Laboratory
SM 4500 F C	Fluoride	SM	TAL PEN

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater",

**Laboratory References:**

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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# Sample Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-149783-1	AY04014 MW-4	Water	02/13/18 11:02	02/19/18 16:35
400-149783-2	AY04015 MW-3	Water	02/13/18 11:57	02/19/18 16:35
400-149783-3	AY04016 MW-8	Water	02/13/18 13:00	02/19/18 16:35
400-149783-4	AY04017 MW-4 DUP	Water	02/13/18 11:02	02/19/18 16:35
400-149783-5	AY04018 FB-1	Water	02/13/18 12:42	02/19/18 16:35
400-149783-6	AY04019 EB-1	Water	02/13/18 13:24	02/19/18 16:35
400-149783-7	AY04020 MW-1L	Water	02/13/18 13:19	02/19/18 16:35
400-149783-8	AY04021 MW-2L	Water	02/13/18 12:22	02/19/18 16:35
400-149783-9	AY04022 MW-3L	Water	02/13/18 11:15	02/19/18 16:35
400-149783-10	AY04023 MW-4L	Water	02/13/18 10:14	02/19/18 16:35



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04014 MW-4**

**Lab Sample ID: 400-149783-1**

Date Collected: 02/13/18 11:02

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.63		0.10	0.032	mg/L			02/21/18 14:02	1

**Client Sample ID: AY04015 MW-3**

**Lab Sample ID: 400-149783-2**

Date Collected: 02/13/18 11:57

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.57		0.10	0.032	mg/L			02/21/18 14:10	1

**Client Sample ID: AY04016 MW-8**

**Lab Sample ID: 400-149783-3**

Date Collected: 02/13/18 13:00

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.15		0.10	0.032	mg/L			02/21/18 14:15	1

**Client Sample ID: AY04017 MW-4 DUP**

**Lab Sample ID: 400-149783-4**

Date Collected: 02/13/18 11:02

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.36		0.10	0.032	mg/L			02/21/18 14:17	1

**Client Sample ID: AY04018 FB-1**

**Lab Sample ID: 400-149783-5**

Date Collected: 02/13/18 12:42

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.032		0.10	0.032	mg/L			02/21/18 14:21	1

**Client Sample ID: AY04019 EB-1**

**Lab Sample ID: 400-149783-6**

Date Collected: 02/13/18 13:24

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.032		0.10	0.032	mg/L			02/21/18 14:23	1

**Client Sample ID: AY04020 MW-1L**

**Lab Sample ID: 400-149783-7**

Date Collected: 02/13/18 13:19

Matrix: Water

Date Received: 02/19/18 16:35

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.14		0.10	0.032	mg/L			02/21/18 14:27	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04021 MW-2L**

**Date Collected: 02/13/18 12:22**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-8**

**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.22		0.10	0.032	mg/L			02/21/18 14:29	1

**Client Sample ID: AY04022 MW-3L**

**Date Collected: 02/13/18 11:15**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-9**

**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.27		0.10	0.032	mg/L			02/21/18 14:31	1

**Client Sample ID: AY04023 MW-4L**

**Date Collected: 02/13/18 10:14**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-10**

**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.38		0.10	0.032	mg/L			02/21/18 13:33	1

## Definitions/Glossary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04014 MW-4**

**Date Collected: 02/13/18 11:02**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:02	BAB	TAL PEN

**Client Sample ID: AY04015 MW-3**

**Date Collected: 02/13/18 11:57**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:10	BAB	TAL PEN

**Client Sample ID: AY04016 MW-8**

**Date Collected: 02/13/18 13:00**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:15	BAB	TAL PEN

**Client Sample ID: AY04017 MW-4 DUP**

**Date Collected: 02/13/18 11:02**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:17	BAB	TAL PEN

**Client Sample ID: AY04018 FB-1**

**Date Collected: 02/13/18 12:42**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:21	BAB	TAL PEN

**Client Sample ID: AY04019 EB-1**

**Date Collected: 02/13/18 13:24**

**Date Received: 02/19/18 16:35**

**Lab Sample ID: 400-149783-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:23	BAB	TAL PEN

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04020 MW-1L**

**Lab Sample ID: 400-149783-7**

**Date Collected: 02/13/18 13:19**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:27	BAB	TAL PEN

**Client Sample ID: AY04021 MW-2L**

**Lab Sample ID: 400-149783-8**

**Date Collected: 02/13/18 12:22**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:29	BAB	TAL PEN

**Client Sample ID: AY04022 MW-3L**

**Lab Sample ID: 400-149783-9**

**Date Collected: 02/13/18 11:15**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 14:31	BAB	TAL PEN

**Client Sample ID: AY04023 MW-4L**

**Lab Sample ID: 400-149783-10**

**Date Collected: 02/13/18 10:14**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	387385	02/21/18 13:33	BAB	TAL PEN

## Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
SDG: Gorgas Gypsum 1135

## General Chemistry

### Analysis Batch: 387385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-149783-1	AY04014 MW-4	Total/NA	Water	SM 4500 F C	
400-149783-2	AY04015 MW-3	Total/NA	Water	SM 4500 F C	
400-149783-3	AY04016 MW-8	Total/NA	Water	SM 4500 F C	
400-149783-4	AY04017 MW-4 DUP	Total/NA	Water	SM 4500 F C	
400-149783-5	AY04018 FB-1	Total/NA	Water	SM 4500 F C	
400-149783-6	AY04019 EB-1	Total/NA	Water	SM 4500 F C	
400-149783-7	AY04020 MW-1L	Total/NA	Water	SM 4500 F C	
400-149783-8	AY04021 MW-2L	Total/NA	Water	SM 4500 F C	
400-149783-9	AY04022 MW-3L	Total/NA	Water	SM 4500 F C	
400-149783-10	AY04023 MW-4L	Total/NA	Water	SM 4500 F C	
MB 400-387385/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-387385/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-149783-10 MS	AY04023 MW-4L	Total/NA	Water	SM 4500 F C	
400-149783-10 MSD	AY04023 MW-4L	Total/NA	Water	SM 4500 F C	
400-149783-2 DU	AY04015 MW-3	Total/NA	Water	SM 4500 F C	

### Analysis Batch: 387878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-387878/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-387878/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-149784-A-10 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-149784-A-10 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-149783-2 DU	AY04015 MW-3	Total/NA	Water	SM 4500 F C	

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
 SDG: Gorgas Gypsum 1135

## Method: SM 4500 F C - Fluoride

**Lab Sample ID: MB 400-387385/3**  
**Matrix: Water**  
**Analysis Batch: 387385**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.032		0.10	0.032	mg/L			02/21/18 13:24	1

**Lab Sample ID: LCS 400-387385/4**  
**Matrix: Water**  
**Analysis Batch: 387385**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.94		mg/L		99	90 - 110

**Lab Sample ID: 400-149783-10 MS**  
**Matrix: Water**  
**Analysis Batch: 387385**

**Client Sample ID: AY04023 MW-4L**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.38		1.00	1.28		mg/L		90	75 - 125

**Lab Sample ID: 400-149783-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 387385**

**Client Sample ID: AY04023 MW-4L**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.38		1.00	1.28		mg/L		90	75 - 125	0	4

**Lab Sample ID: 400-149783-2 DU**  
**Matrix: Water**  
**Analysis Batch: 387385**

**Client Sample ID: AY04015 MW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.57		0.580		mg/L		2	4

**Lab Sample ID: MB 400-387878/3**  
**Matrix: Water**  
**Analysis Batch: 387878**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.032		0.10	0.032	mg/L			02/21/18 13:24	1

**Lab Sample ID: LCS 400-387878/4**  
**Matrix: Water**  
**Analysis Batch: 387878**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.94		mg/L		99	90 - 110

**Lab Sample ID: 400-149784-A-10 MS**  
**Matrix: Water**  
**Analysis Batch: 387878**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.38		1.00	1.28		mg/L		90	75 - 125

TestAmerica Pensacola



# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
 SDG: Gorgas Gypsum 1135

**Lab Sample ID: 400-149784-A-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 387878**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.38		1.00	1.28		mg/L		90	75 - 125	0	4

**Lab Sample ID: 400-149783-2 DU**  
**Matrix: Water**  
**Analysis Batch: 387878**

**Client Sample ID: AY04015 MW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.57		0.580		mg/L		2	4

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### Chain of Custody Record

<b>Client Information</b> Client Contact: Sarah Copeland Company: Alabama Power General Test Laboratory Address: 744 County Rd 87 GSC #8 City: Calera State, Zip: AL, 35040 Phone: 205-664-6121(Tel) Email: sgcopele@southernco.com Project Name: CCR Site: Gorgas Gypsum 1135		Lab P/N: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): Lab P/N: 149783 Job #: 149783						
Due Date Requested: TAT Requested (days): Routine PO #: WO #: Project #: 40007143 CCR SSOV#:		<b>Analysis Requested</b> Total Number of Containers:						
<b>Sample Identification</b>		<b>Special Instructions/Notes:</b>						
AY04014	2/13/18	1102	G	Water	SM 4500 SO <sub>4</sub> E	X	MW-4	
AY04015	2/13/18	1157	G	Water	SM 4500 Cl E	X	MW-3	
AY04016	2/13/18	1300	G	Water	SM 4500 F C	X	MW-8	
AY04017	2/13/18	1102	G	Water		X	MW-4 Dup (Sample Duplicate)	
AY04018	2/13/18	1242	G	Water		X	FB-1 (Field Blank)	
AY04019	2/13/18	1324	G	Water		X	EB-1 (Equipment Blank)	
AY04020	2/13/18	1319	G	Water		X	MW-1L	
AY04021	2/13/18	1222	G	Water		X	MW-2L	
AY04022	2/13/18	1115	G	Water		X	MW-3L	
AY04023	2/13/18	1014	G	Water		Y	MW-4L	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Empty Kit Relinquished by: Relinquished by: Sarah Copeland Date/Time: 2/19/2018; 1000		Method of Shipment: Received by: _____ Date/Time: _____ Company: APC						
Relinquished by: Relinquished by: _____ Date/Time: _____ Company: _____		Received by: _____ Date/Time: _____ Company: _____						
Relinquished by: Relinquished by: _____ Date/Time: _____ Company: _____		Received by: _____ Date/Time: _____ Company: _____						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 2-19-18 1635 [Signature]						



## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-149783-1  
SDG Number: Gorgas Gypsum 1135

**Login Number: 149783**

**List Number: 1**

**Creator: Whitmire, Cheyenne R**

**List Source: TestAmerica Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149783-1  
 SDG: Gorgas Gypsum 1135

## Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-17 *
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-149811-1

TestAmerica Sample Delivery Group: Gorgas Gypsum 1135

Client Project/Site: CCR Plant Gorgas

For:

Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

3/21/2018 10:27:27 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

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### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Method Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
SDG: Gorgas Gypsum 1135

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.  
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Sample Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
SDG: Gorgas Gypsum 1135

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-149811-1	AY04024 MW-4	Water	02/13/18 11:02	02/19/18 16:35
400-149811-2	AY04025 MW-4 DUP	Water	02/13/18 11:02	02/19/18 16:35
400-149811-3	AY04026 MW-3	Water	02/13/18 11:57	02/19/18 16:35
400-149811-4	AY04027 MW-8	Water	02/13/18 13:00	02/19/18 16:35
400-149811-5	AY04028 FB-1	Water	02/13/18 12:42	02/19/18 16:35
400-149811-6	AY04029 EB-1	Water	02/13/18 13:24	02/19/18 16:35
400-149811-7	AY04030 MW-1L	Water	02/13/18 13:19	02/19/18 16:35
400-149811-8	AY04031 MW-2L	Water	02/13/18 12:22	02/19/18 16:35
400-149811-9	AY04032 MW-3L	Water	02/13/18 11:15	02/19/18 16:35
400-149811-10	AY04033 MW-4L	Water	02/13/18 10:14	02/19/18 16:35



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04024 MW-4**

**Lab Sample ID: 400-149811-1**

**Date Collected: 02/13/18 11:02**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.142		0.0733	0.0744	1.00	0.0849	pCi/L	02/23/18 12:30	03/19/18 09:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					02/23/18 12:30	03/19/18 09:01	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.240	U	0.235	0.236	1.00	0.380	pCi/L	02/23/18 13:17	03/12/18 14:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					02/23/18 13:17	03/12/18 14:49	1
Y Carrier	78.5		40 - 110					02/23/18 13:17	03/12/18 14:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.382		0.246	0.247	5.00	0.380	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04025 MW-4 DUP**

**Lab Sample ID: 400-149811-2**

Date Collected: 02/13/18 11:02

Matrix: Water

Date Received: 02/19/18 16:35

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.188		0.0887	0.0903	1.00	0.103	pCi/L	02/23/18 12:30	03/19/18 09:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					02/23/18 12:30	03/19/18 09:01	1

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.671		0.300	0.306	1.00	0.435	pCi/L	02/23/18 13:17	03/12/18 14:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					02/23/18 13:17	03/12/18 14:49	1
Y Carrier	79.3		40 - 110					02/23/18 13:17	03/12/18 14:49	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.858		0.313	0.319	5.00	0.435	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04026 MW-3**

**Lab Sample ID: 400-149811-3**

Date Collected: 02/13/18 11:57

Matrix: Water

Date Received: 02/19/18 16:35

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.163		0.0754	0.0768	1.00	0.0780	pCi/L	02/23/18 12:30	03/19/18 09:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					02/23/18 12:30	03/19/18 09:01	1

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.469		0.248	0.252	1.00	0.370	pCi/L	02/23/18 13:17	03/12/18 14:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					02/23/18 13:17	03/12/18 14:49	1
Y Carrier	82.6		40 - 110					02/23/18 13:17	03/12/18 14:49	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.633		0.259	0.263	5.00	0.370	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04027 MW-8**

**Lab Sample ID: 400-149811-4**

**Date Collected: 02/13/18 13:00**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.128		0.0769	0.0778	1.00	0.0982	pCi/L	02/23/18 12:30	03/19/18 09:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					02/23/18 12:30	03/19/18 09:01	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.954		0.284	0.297	1.00	0.357	pCi/L	02/23/18 13:17	03/12/18 14:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					02/23/18 13:17	03/12/18 14:49	1
Y Carrier	81.1		40 - 110					02/23/18 13:17	03/12/18 14:49	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.08		0.294	0.307	5.00	0.357	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04028 FB-1**

**Lab Sample ID: 400-149811-5**

**Date Collected: 02/13/18 12:42**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.102		0.0709	0.0715	1.00	0.0960	pCi/L	02/23/18 12:30	03/19/18 09:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					02/23/18 12:30	03/19/18 09:02	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.430		0.225	0.229	1.00	0.329	pCi/L	02/23/18 13:17	03/12/18 14:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					02/23/18 13:17	03/12/18 14:50	1
Y Carrier	83.4		40 - 110					02/23/18 13:17	03/12/18 14:50	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.532		0.236	0.240	5.00	0.329	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04029 EB-1**

**Lab Sample ID: 400-149811-6**

**Date Collected: 02/13/18 13:24**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0910		0.0646	0.0651	1.00	0.0859	pCi/L	02/23/18 12:30	03/19/18 09:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					02/23/18 12:30	03/19/18 09:02	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.266	U	0.248	0.250	1.00	0.401	pCi/L	02/23/18 13:17	03/12/18 14:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					02/23/18 13:17	03/12/18 14:50	1
Y Carrier	84.9		40 - 110					02/23/18 13:17	03/12/18 14:50	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.357	U	0.256	0.258	5.00	0.401	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04030 MW-1L**

**Lab Sample ID: 400-149811-7**

**Date Collected: 02/13/18 13:19**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.199		0.0795	0.0815	1.00	0.0720	pCi/L	02/23/18 12:30	03/19/18 09:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	110		40 - 110					02/23/18 12:30	03/19/18 09:02	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.575		0.243	0.249	1.00	0.344	pCi/L	02/23/18 13:17	03/12/18 14:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	110		40 - 110					02/23/18 13:17	03/12/18 14:50	1
Y Carrier	83.4		40 - 110					02/23/18 13:17	03/12/18 14:50	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.774		0.256	0.262	5.00	0.344	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04031 MW-2L**

**Lab Sample ID: 400-149811-8**

**Date Collected: 02/13/18 12:22**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0534	U	0.0565	0.0567	1.00	0.0887	pCi/L	02/23/18 12:30	03/19/18 09:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					02/23/18 12:30	03/19/18 09:02	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.751		0.278	0.286	1.00	0.383	pCi/L	02/23/18 13:17	03/12/18 14:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					02/23/18 13:17	03/12/18 14:50	1
Y Carrier	84.1		40 - 110					02/23/18 13:17	03/12/18 14:50	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.804		0.284	0.292	5.00	0.383	pCi/L		03/20/18 16:02	1



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04032 MW-3L**

**Lab Sample ID: 400-149811-9**

**Date Collected: 02/13/18 11:15**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0789	U	0.0594	0.0598	1.00	0.0794	pCi/L	02/23/18 12:30	03/19/18 09:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					02/23/18 12:30	03/19/18 09:02	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.570		0.271	0.276	1.00	0.393	pCi/L	02/23/18 13:17	03/12/18 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					02/23/18 13:17	03/12/18 14:51	1
Y Carrier	79.3		40 - 110					02/23/18 13:17	03/12/18 14:51	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.649		0.277	0.282	5.00	0.393	pCi/L		03/20/18 16:02	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04033 MW-4L**

**Lab Sample ID: 400-149811-10**

**Date Collected: 02/13/18 10:14**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.136		0.0727	0.0737	1.00	0.0840	pCi/L	02/23/18 12:30	03/19/18 09:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					02/23/18 12:30	03/19/18 09:03	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.554		0.245	0.250	1.00	0.346	pCi/L	02/23/18 13:17	03/12/18 14:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					02/23/18 13:17	03/12/18 14:51	1
Y Carrier	81.5		40 - 110					02/23/18 13:17	03/12/18 14:51	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.690		0.256	0.261	5.00	0.346	pCi/L		03/20/18 16:02	1

# Definitions/Glossary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
SDG: Gorgas Gypsum 1135

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04024 MW-4**

**Lab Sample ID: 400-149811-1**

**Date Collected: 02/13/18 11:02**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:01	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:49	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04025 MW-4 DUP**

**Lab Sample ID: 400-149811-2**

**Date Collected: 02/13/18 11:02**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:01	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:49	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04026 MW-3**

**Lab Sample ID: 400-149811-3**

**Date Collected: 02/13/18 11:57**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:01	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:49	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04027 MW-8**

**Lab Sample ID: 400-149811-4**

**Date Collected: 02/13/18 13:00**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:01	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:49	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04028 FB-1**

**Lab Sample ID: 400-149811-5**

**Date Collected: 02/13/18 12:42**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:50	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04029 EB-1**

**Lab Sample ID: 400-149811-6**

**Date Collected: 02/13/18 13:24**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:50	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04030 MW-1L**

**Lab Sample ID: 400-149811-7**

**Date Collected: 02/13/18 13:19**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:50	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04031 MW-2L**

**Lab Sample ID: 400-149811-8**

**Date Collected: 02/13/18 12:22**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:50	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

**Client Sample ID: AY04032 MW-3L**

**Lab Sample ID: 400-149811-9**

**Date Collected: 02/13/18 11:15**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:51	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Client Sample ID: AY04033 MW-4L**

**Lab Sample ID: 400-149811-10**

**Date Collected: 02/13/18 10:14**

**Matrix: Water**

**Date Received: 02/19/18 16:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			352702	02/23/18 12:30	JTR	TAL SL
Total/NA	Analysis	9315		1	356225	03/19/18 09:03	RTM	TAL SL
Total/NA	Prep	PrecSep_0			352715	02/23/18 13:17	JTR	TAL SL
Total/NA	Analysis	9320		1	355046	03/12/18 14:51	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	356757	03/20/18 16:02	RTM	TAL SL

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# QC Association Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
SDG: Gorgas Gypsum 1135

## Rad

### Prep Batch: 352702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-149811-1	AY04024 MW-4	Total/NA	Water	PrecSep-21	
400-149811-2	AY04025 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-149811-3	AY04026 MW-3	Total/NA	Water	PrecSep-21	
400-149811-4	AY04027 MW-8	Total/NA	Water	PrecSep-21	
400-149811-5	AY04028 FB-1	Total/NA	Water	PrecSep-21	
400-149811-6	AY04029 EB-1	Total/NA	Water	PrecSep-21	
400-149811-7	AY04030 MW-1L	Total/NA	Water	PrecSep-21	
400-149811-8	AY04031 MW-2L	Total/NA	Water	PrecSep-21	
400-149811-9	AY04032 MW-3L	Total/NA	Water	PrecSep-21	
400-149811-10	AY04033 MW-4L	Total/NA	Water	PrecSep-21	
MB 160-352702/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-352702/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-149811-3 DU	AY04026 MW-3	Total/NA	Water	PrecSep-21	

### Prep Batch: 352715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-149811-1	AY04024 MW-4	Total/NA	Water	PrecSep_0	
400-149811-2	AY04025 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-149811-3	AY04026 MW-3	Total/NA	Water	PrecSep_0	
400-149811-4	AY04027 MW-8	Total/NA	Water	PrecSep_0	
400-149811-5	AY04028 FB-1	Total/NA	Water	PrecSep_0	
400-149811-6	AY04029 EB-1	Total/NA	Water	PrecSep_0	
400-149811-7	AY04030 MW-1L	Total/NA	Water	PrecSep_0	
400-149811-8	AY04031 MW-2L	Total/NA	Water	PrecSep_0	
400-149811-9	AY04032 MW-3L	Total/NA	Water	PrecSep_0	
400-149811-10	AY04033 MW-4L	Total/NA	Water	PrecSep_0	
MB 160-352715/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-352715/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-149811-3 DU	AY04026 MW-3	Total/NA	Water	PrecSep_0	

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-352702/24-A**  
**Matrix: Water**  
**Analysis Batch: 356227**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 352702**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1241		0.0709	0.0718	1.00	0.0836	pCi/L	02/23/18 12:42	03/19/18 09:04	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					02/23/18 12:42	03/19/18 09:04	1

**Lab Sample ID: LCS 160-352702/1-A**  
**Matrix: Water**  
**Analysis Batch: 356225**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 352702**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.8	10.57		1.09	1.00	0.106	pCi/L	90	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	107		40 - 110						

**Lab Sample ID: 400-149811-3 DU**  
**Matrix: Water**  
**Analysis Batch: 356225**

**Client Sample ID: AY04026 MW-3**  
**Prep Type: Total/NA**  
**Prep Batch: 352702**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.163		0.1064		0.0749	1.00	0.103	pCi/L	0.38	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	103		40 - 110							

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-352715/24-A**  
**Matrix: Water**  
**Analysis Batch: 355047**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 352715**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.7297		0.278	0.286	1.00	0.377	pCi/L	02/23/18 13:17	03/12/18 14:53	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					02/23/18 13:17	03/12/18 14:53	1
Y Carrier	78.9		40 - 110					02/23/18 13:17	03/12/18 14:53	1



# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-352715/1-A**  
**Matrix: Water**  
**Analysis Batch: 355046**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 352715**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.49	9.436		1.10	1.00	0.396	pCi/L	111	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	107		40 - 110
Y Carrier	78.1		40 - 110

**Lab Sample ID: 400-149811-3 DU**  
**Matrix: Water**  
**Analysis Batch: 355046**

**Client Sample ID: AY04026 MW-3**  
**Prep Type: Total/NA**  
**Prep Batch: 352715**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.469		0.3640	U	0.242	1.00	0.368	pCi/L	0.21	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	81.1		40 - 110


## Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

**Lab Sample ID: 400-149811-3 DU**  
**Matrix: Water**  
**Analysis Batch: 356757**

**Client Sample ID: AY04026 MW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.633		0.4704		0.253	5.00	0.368	pCi/L	0.31	

# Chain of Custody Record

<b>Client Information</b>		Lab PM: <b>Whitmore, Chyenne R</b>		Carrier Tracking No(s):	
Client Contact: <b>Anthony Goggins</b>		E-Mail: <b>cheyenne.whitmore@testamericainc.com</b>		COC No: <b>400-56525-24537.1</b>	
Company: <b>Sarah Copeland</b>		Phone: <b>40007143</b>		Page: <b>1 of 1</b>	
Address: <b>Alabama Power General Test Laboratory</b>		Project #: <b>40007143</b>		Job #: <b>149811</b>	
744 County Rd 87 GSC #8		SSOW#: <b>Gorgas Gypsum 1135</b>		Preservation Codes:	
City: <b>Calera</b>		Site: <b>Gorgas Gypsum 1135</b>		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - Nitrous Acid F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Slate, Zip: <b>AL, 35040</b>		Matrix (Water, Soil, or Tissue, Acid)		M - Hexane N - None O - Ash/02 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Phone: <b>205-664-6121(Tel)</b>		Sample Type (C=Comp, G=Grab)		Total Number of Containers	
Email: <b>sgcopela@southernco.com</b>		Preservation Code:		Special Instructions/Note:	
Project Name: <b>CCR</b>		Sample Date		1 MW-4	
Due Date Requested:		Sample Time		1 MW-4 Dup (Sample Duplicate)	
TAT Requested (days): <b>Routine</b>		Sample Date		3 MW-3	
PO #:		Sample Time		1 MW-8	
WO #:		Sample Date		1 FB-1 (Field Blank)	
Field Filtered Sample (Yes or No)		Sample Time		1 EB-1 (Equipment Blank)	
Perform MS/MSD (Yes or No)		Sample Date		1 MW-1L	
9315_Ra226, 9320_Ra228, 9320_Ra228, Ra226Ra228, GPPC		Sample Time		1 MW-2L	
Analysis Requested		Sample Date		1 MW-3L	
QR Code:  400-149811 COC		Sample Time		1 MW-4L	
Possible Hazard Identification		Sample Date			
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Time			
Deliverable Requested: I, II, III, IV, Other (specify)		Sample Date			
Empty Kit Relinquished by:		Sample Time			
Relinquished by: <b>Sarah Copeland</b>		Sample Date			
Relinquished by:		Sample Time			
Relinquished by:		Sample Date			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:			
Cooler Temperature(s) °C and Other Remarks: <b>Wally's Table IR1</b>		Date/Time: <b>2/19/18 10:35</b>		Company: <b>APC</b>	
Date/Time: <b>2/19/18 10:35</b>		Date/Time:		Company:	
Date/Time:		Date/Time:		Company:	



## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-149811-1  
SDG Number: Gorgas Gypsum 1135

**Login Number: 149811**

**List Number: 1**

**Creator: Whitmire, Cheyenne R**

**List Source: TestAmerica Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	16.2°C, 16.2°C ir-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-149811-1  
SDG Number: Gorgas Gypsum 1135

**Login Number: 149811**  
**List Number: 2**  
**Creator: Clarke, Jill C**

**List Source: TestAmerica St. Louis**  
**List Creation: 02/22/18 11:27 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0, 20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
 SDG: Gorgas Gypsum 1135

## Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

## Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542018-1	07-31-18
New Jersey	NELAP	2	MO002	06-30-18
New York	NELAP	2	11616	03-31-18 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-149811-1  
SDG: Gorgas Gypsum 1135

## Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
North Dakota	State Program	8	R207	06-30-18
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18



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

## ***Field Case Narrative***



# **Gorgas Gypsum Storage**

## **2018 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).

Upgradient samples (MW-1, MW-2, MW-3 and MW-4) located near the landfill were collected by B. Rothschadl, while downgradient samples (MW-3, MW-4 and MW-8) located at the gypsum storage area were also collected by B. Rothschadl.

A light rain storm moved through the area when sampling wells MW-1L and MW-4L.

Field quality control procedures were performed as follows:

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

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

# Analytical Report



**Sample Group :** WMWGORG\_1154  
**Project/Site :** Gorgas Gypsum  
Parrish, AL 35580  
**For :** Southern Company Services  
3535 Colonnade Parkway  
Birmingham, AL 35243  
**Attention :** Dustin Brooks & Greg Dyer  
**Released By :** Sarah Copeland  
sgcopela@southernco.com  
(205) 664-6121

The following data has been reviewed and approved by:

**Quality Control:** Sarah Copeland

Digitally signed by Sarah Copeland  
DN: cn=Sarah Copeland, o, ou,  
email=sgcopela@southernco.com,  
c=US  
Date: 2018.07.06 08:31:38 -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: 2018.07.10 17:13:28 -05'00'



Metals ICP

Gorgas Gypsum

WMWGORG\_1154

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY13741	621839	WMWGORG_1154
AY13742	621839	WMWGORG_1154
AY13743	621839	WMWGORG_1154
AY13744	621839	WMWGORG_1154
AY13745	621839	WMWGORG_1154
AY13746	621839	WMWGORG_1154
AY13747	621839	WMWGORG_1154
AY13748	621839	WMWGORG_1154
AY13749	621839	WMWGORG_1154
AY13750	621839	WMWGORG_1154

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 passed.
- 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 spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- All sample internal standard criteria were met.
- The high standard readbacks associated with EPA 200.7 were within acceptance criteria.



- It is noted that the QC summary page typically provides the QC results from the original batch analytical sequence. If dilutions were subsequently performed to bring sample concentrations within the calibration range, any additional QC data from the dilution analyses may need to be obtained from the laboratory. Any qualifications applied to original analyses or dilution re-analyses are based upon QC data available at the time of review.

#### Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. All samples were analyzed at a x2.03 dilution to compensate for potential matrix effects. The following samples were diluted due to analyzed sample concentration over the high standard of the calibration curve.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AY13741	Calcium	x10.15
AY13742	Calcium	x10.15
AY13743	Calcium	x101.5
AY13745	Calcium	x101.5
AY13746	Calcium	x10.15
AY13747	Calcium	x10.15
AY13748	Calcium	x10.15
AY13749	Calcium	x10.15

8. The raw data results include results corrected for dilution.



Metals ICPMS

Gorgas Gypsum

WMWGORG\_1154

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY13741	622090	WMWGORG_1154
AY13742	622090	WMWGORG_1154
AY13743	622090	WMWGORG_1154
AY13744	622090	WMWGORG_1154
AY13745	622090	WMWGORG_1154
AY13746	622090	WMWGORG_1154
AY13747	622090	WMWGORG_1154
AY13748	622090	WMWGORG_1154
AY13749	622090	WMWGORG_1154
AY13750	622090	WMWGORG_1154

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.



Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.
- 
7. All samples were analyzed at a dilution of 1 to 5 to compensate for any matrix effects.
  8. The raw data results are shown with dilution factors included.





Mercury

Gorgas Gypsum

WMWGORG\_1154

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY13741	622792	WMWGORG_1154
AY13742	622792	WMWGORG_1154
AY13743	622792	WMWGORG_1154
AY13744	622792	WMWGORG_1154
AY13745	622792	WMWGORG_1154
AY13746	622792	WMWGORG_1154
AY13747	622792	WMWGORG_1154
AY13748	622792	WMWGORG_1154
AY13749	622792	WMWGORG_1154
AY13750	622792	WMWGORG_1154

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

General Quality Control Procedures:

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



Matrix Specific Quality Control Procedures:

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

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



TDS

Gorgas Gypsum

WMWGORG\_1154

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY13741	622129	WMWGORG_1154
AY13742	622130	WMWGORG_1154
AY13743	622130	WMWGORG_1154
AY13744	622130	WMWGORG_1154
AY13745	622130	WMWGORG_1154
AY13746	622472	WMWGORG_1154
AY13747	622472	WMWGORG_1154
AY13748	622472	WMWGORG_1154
AY13749	622472	WMWGORG_1154
AY13750	622472	WMWGORG_1154

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

General Quality Control Procedures:

- A blank was analyzed with each batch. All criteria were met.
- All final weights of samples, standards, and blanks agreed within 0.5mg of the previous weight.
- A sample duplicate was analyzed with each batch. RPD/2 was less than 5%.
- A laboratory control sample was analyzed with each batch. All criteria were met.
- All samples were between 2.5mg and 200mg residue with the exception of AY13744 & AY13750, which were below the 2.5mg residue requirement. Maximum volume of 150mL filtered.

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY13741

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0139	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	0.00463	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	3.96	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		10.15	1.015	5.075	105	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	0.00171	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.166	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	0.266	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	J 0.00388	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/18/2018	SM 2540C		1		50	944	mg/L
Filter Completion Date	CES	6/14/2018	SM 2540C		1			6/14/18	Date

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY13741

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec
				Limit	Spike				Limit	Rec	Limit	Prec	
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY13741

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Rec	Prec	Prec	Limit
								Duplicate	LCS			Limit	Limit			
AY13741	Solids, Dissolved	mg/L	3.00		25			948	48.0		40 to 60			0.211	5	
	Filter Completion Date	Date														

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

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Expiration: June 30, 2019

Comments:

CC:



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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AY13742

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0130	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	0.00416	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	3.95	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		10.15	1.015	5.075	108	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	0.00139	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.162	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	0.265	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	J 0.00349	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/18/2018	SM 2540C		1		50	978	mg/L
Filter Completion Date	CES	6/14/2018	SM 2540C		1			6/14/18	Date

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AY13742

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec
				Limit	Spike				Limit	Rec	Limit	Prec	
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

## Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AY13742

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec
			Limit				Duplicate	Limit	Limit	Limit
	Filter Completion Date	Date								
AY13778	Solids, Dissolved	mg/L	3.00	25			188	48.0	40 to 60	0.535 5

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY13743

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0127	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	J 0.00244	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	3.09	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		101.5	10.15	50.75	558	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.138	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	0.425	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	J 0.00236	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/18/2018	SM 2540C		1		250	4960	mg/L
Filter Completion Date	CES	6/14/2018	SM 2540C		1			6/14/18	Date

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

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY13743

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec	Limit
				Limit	Spike				Limit	Rec	Limit	Prec		
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20	
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20	
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20	
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20	
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20	
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20	
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20	
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20	
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20	
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20	
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20	
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20	
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20	
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20	
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY13743

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec
			Limit	Limit			Duplicate	Limit	Limit	Limit
	Filter Completion Date	Date								
AY13778	Solids, Dissolved	mg/L	3.00	25			188	48.0	40 to 60	0.535 5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

CC:



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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY13744

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/18/2018	SM 2540C		1		25	U Not Detected	mg/L
Filter Completion Date	CES	6/14/2018	SM 2540C		1			6/14/18	Date

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY13744

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit
			Limit	MB					Limit	Rec	Limit	Prec		
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20	
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20	
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20	
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20	
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20	
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20	
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20	
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20	
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20	
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20	
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20	
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20	
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20	
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20	
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 11-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY13744

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec
			Limit	Limit			Duplicate	Limit	Limit	Limit
	Filter Completion Date	Date								
AY13778	Solids, Dissolved	mg/L	3.00	25			188	48.0	40 to 60	0.535 5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

CC:

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

# Certificate Of Analysis



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY13745

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0234	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	0.181	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		101.5	10.15	50.75	442	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	0.166	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/18/2018	SM 2540C		1		250	3510	mg/L
Filter Completion Date	CES	6/14/2018	SM 2540C		1			6/14/18	Date

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY13745

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec
				Limit	Spike				Limit	Rec	Limit	Prec	
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY13745

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Rec	Prec	Prec	Limit
								Duplicate	LCS			Limit	Limit			
AY13778	Solids, Dissolved	mg/L	3.00		25			188	48.0		40 to 60			0.535	5	
	Filter Completion Date	Date														

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY13746

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0108	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	J 0.0478	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		10.15	1.015	5.075	355	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	0.0511	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/22/2018	SM 2540C		1		125	4080	mg/L
Filter Completion Date	CES	6/19/2018	SM 2540C		1			6/19/18	Date

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:



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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY13746

Sample	Analysis	Units	MB		MS	MSD	LCS	LCS Limit	Rec		Prec	Limit	
			MB	Limit					Rec	Limit			
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY13746

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec
			Limit				Duplicate	Limit	Limit	Limit
	Filter Completion Date	Date								
AY13782	Solids, Dissolved	mg/L	-2.00	25			233	52.0	40 to 60	0.648 5

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Laboratory certification ID: E571114

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CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY13747

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q	Results	Units
<b>Metals, Cyanide, Total Phenols</b>										
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	J	0.00103	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	J	0.00997	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003		0.00306	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	J	0.0371	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		10.15	1.015	5.075		318	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001		0.00351	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U	Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01		0.291	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U	Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05		0.194	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U	Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U	Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	J	0.00836	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U	Not Detected	mg/L
<b>General Characteristics</b>										
* Solids, Dissolved	KRC	6/22/2018	SM 2540C		1		125		3820	mg/L
Filter Completion Date	CES	6/19/2018	SM 2540C		1				6/19/18	Date

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY13747

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20	
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20	
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20	
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20	
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20	
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20	
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20	
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20	
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20	
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20	
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20	
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20	
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20	
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20	
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY13747

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Rec	Prec	Prec	Limit
								Duplicate	LCS			Limit	Limit			
AY13782	Solids, Dissolved	mg/L	-2.00		25			233	52.0		40 to 60			0.648	5	
	Filter Completion Date	Date														

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY13748

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0138	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	J 0.0275	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		10.15	1.015	5.075	179	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0366	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	J 0.0472	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/22/2018	SM 2540C		1		100	1550	mg/L
Filter Completion Date	CES	6/19/2018	SM 2540C		1			6/19/18	Date

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY13748

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec
				Limit	Spike				Limit	Rec	Limit	Prec	
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**



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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY13748

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	Rec	Prec	Prec	Limit	
								Duplicate	LCS	Limit	Rec	Limit	Prec	Limit
AY13782	Solids, Dissolved	mg/L	-2.00		25			233	52.0	40 to 60			0.648	5
	Filter Completion Date	Date												

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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY13749

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0104	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	J 0.0214	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		10.15	1.015	5.075	203	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	0.00217	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	0.0512	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	J 0.0251	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	J 0.00409	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/22/2018	SM 2540C		1		125	2400	mg/L
Filter Completion Date	CES	6/19/2018	SM 2540C		1			6/19/18	Date

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY13749

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit	
			MB	Limit					Limit	Rec	Limit	Prec			
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115		106	70 to 130		1.91	20
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115		91.9	70 to 130		2.20	20
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115		103	70 to 130		4.51	20
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115		96.5	70 to 130		0.640	20
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15		95.9	70 to 130		2.28	20
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115		96.0	70 to 130		1.42	20
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115		92.1	70 to 130		2.11	20
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115		100	70 to 130		0.161	20
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115		103	70 to 130		0.629	20
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115		105	70 to 130		1.34	20
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23		95.9	70 to 130		1.75	20
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115		102	70 to 130		4.83	20
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75		98.7	70 to 130		0.307	20
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115		100	70 to 130		2.39	20
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046		98.6	70 to 130		0.899	20

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 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY13749

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec		
			Limit				Duplicate	LCS	Limit	Limit	Prec	Limit
	Filter Completion Date	Date										
AY13782	Solids, Dissolved	mg/L	-2.00	25			233	52.0	40 to 60		0.648	5

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CC:

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 744 County Road 87, GSC#8  
 Calera, AL 35040  
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 FAX (205) 257-1654

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY13750

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	GAS	6/15/2018	EPA 200.7		2.03	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/27/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	GAS	6/15/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	6/15/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	KRC	6/22/2018	SM 2540C		1		25	U Not Detected	mg/L
Filter Completion Date	CES	6/19/2018	SM 2540C		1			6/19/18	Date

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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY13750

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec	Limit
				Limit	Spike				Limit	Rec	Limit	Prec		
AY13750	Selenium, Total	mg/L	0.0000376	0.0044	0.10	0.106	0.104	0.104	0.085 to 0.115	106	70 to 130	1.91	20	
AY13750	Thallium, Total	mg/L	-0.00000318	0.00044	0.10	0.0919	0.0899	0.0899	0.085 to 0.115	91.9	70 to 130	2.20	20	
AY13750	Cobalt, Total	mg/L	-0.0000156	0.0044	0.10	0.103	0.0982	0.0995	0.085 to 0.115	103	70 to 130	4.51	20	
AY13750	Beryllium, Total	mg/L	0.0000970	0.00132	0.10	0.0965	0.0959	0.0915	0.085 to 0.115	96.5	70 to 130	0.640	20	
AY13750	Cadmium, Total	mg/L	0.0000197	0.00066	0.10	0.105	0.104	0.102	0.085 to 0.115	105	70 to 130	1.34	20	
AY13750	Lithium, Total	mg/L	0.0000222	0.022	0.20	0.192	0.195	0.192	0.17 to 0.23	95.9	70 to 130	1.75	20	
AY13750	Antimony, Total	mg/L	0.0000771	0.00132	0.10	0.1000	0.100	0.0993	0.085 to 0.115	100	70 to 130	0.161	20	
AY13750	Arsenic, Total	mg/L	0.00000578	0.0022	0.10	0.103	0.103	0.102	0.085 to 0.115	103	70 to 130	0.629	20	
AY13750	Boron, Total	mg/L	0.00147	0.044	1.00	0.959	0.981	0.976	0.85 to 1.15	95.9	70 to 130	2.28	20	
AY13750	Lead, Total	mg/L	0.0000367	0.0022	0.10	0.0960	0.0946	0.0942	0.085 to 0.115	96.0	70 to 130	1.42	20	
AY13750	Molybdenum, Total	mg/L	0.0000172	0.0044	0.10	0.0921	0.0901	0.0911	0.085 to 0.115	92.1	70 to 130	2.11	20	
AY13750	Barium, Total	mg/L	0.0000165	0.0044	0.10	0.102	0.0973	0.100	0.085 to 0.115	102	70 to 130	4.83	20	
AY13750	Calcium, Total	mg/L	-0.00190	0.22	5.00	4.94	4.95	5.03	4.25 to 5.75	98.7	70 to 130	0.307	20	
AY13750	Chromium, Total	mg/L	-0.00000371	0.0044	0.10	0.100	0.0981	0.0975	0.085 to 0.115	100	70 to 130	2.39	20	
AY13750	Mercury, Total by CVAA	mg/L	0.0000345	0.0005	0.004	0.00394	0.00398	0.00402	0.0034 to 0.0046	98.6	70 to 130	0.899	20	

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# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 12-Jun-18  
 Customer ID:  
 Delivery Date: 13-Jun-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY13750

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Rec	Prec	Prec	Limit
								Duplicate	LCS			Limit	Limit			
AY13782	Solids, Dissolved	mg/L	-2.00		25			233	52.0		40 to 60			0.648	5	
	Filter Completion Date		Date													

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Comments:

CC:



## Definitions



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
B	Analyte found in reagent blank. Indicates possible reagent or background contamination.
E	Estimated reported value exceeded calibration range.
J	Reported value is an estimate because concentration is less than reporting limit.
N	Organic constituents tentatively identified. Confirmation is needed.
R	Matrix spike recovery is out of range.
U	Compound was analyzed, but not detected.
P	Precision is out of range.
C	Analyte was verified by re-analysis.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.
L	Check standard is outside of the required specification limit.
D	All samples were stored at less than or equal to 6 °C and for no longer than 48 hours from time of sampling, unless otherwise noted.
F	Water Field Group (WFG) qualifier; see comments for more information





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-155115-1

TestAmerica Sample Delivery Group: Gorgas Gypsum 1154

Client Project/Site: CCR Plant Gorgas

For:

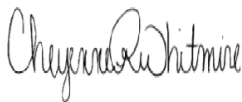
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

6/30/2018 11:42:00 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

[cheyenne.whitmire@testamericainc.com](mailto:cheyenne.whitmire@testamericainc.com)

### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

**Job ID: 400-155115-1**

**Laboratory: TestAmerica Pensacola**

## Narrative

### Job Narrative 400-155115-1

#### General Chemistry

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 402581 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AY13751 MW-4 (400-155115-1), AY13752 MW-4 DUP (400-155115-2), AY13753 MW-3 (400-155115-3), (400-155115-A-1 MS), (400-155115-A-1 MSD), Y13755 MW-8 (400-155115-5), (400-155115-A-5 MS) and (400-155115-A-5 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 402962 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 402559 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AY13751 MW-4 (400-155115-1), AY13752 MW-4 DUP (400-155115-2), AY13753 MW-3 (400-155115-3), (400-155115-A-1 MS), (400-155115-A-1 MSD), AY13755 MW-8 (400-155115-5), AY13756 MW-4L (400-155115-6), AY13757 MW-3L (400-155115-7), AY13758 MW-2L (400-155115-8) and AY13759 MW-1L (400-155115-9). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 402559 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

# Detection Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

## Client Sample ID: AY13751 MW-4

## Lab Sample ID: 400-155115-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	81		4.0	1.2	mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.39		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	540	F1 F2	100	28	mg/L	20		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY13752 MW-4 DUP

## Lab Sample ID: 400-155115-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	80		4.0	1.2	mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.45		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	550		100	28	mg/L	20		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY13753 MW-3

## Lab Sample ID: 400-155115-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	260		20	6.0	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.63		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2900		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY13754 FB-1

## Lab Sample ID: 400-155115-4

No Detections.

## Client Sample ID: AY13755 MW-8

## Lab Sample ID: 400-155115-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	140	F1	10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.15		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1800		300	84	mg/L	60		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY13756 MW-4L

## Lab Sample ID: 400-155115-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.7	J	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.39		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2600		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY13757 MW-3L

## Lab Sample ID: 400-155115-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.4	J	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.53		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2500		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY13758 MW-2L

## Lab Sample ID: 400-155115-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	860		200	56	mg/L	40		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola



## Detection Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

### Client Sample ID: AY13759 MW-1L

### Lab Sample ID: 400-155115-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.3		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1500		300	84	mg/L	60		SM 4500 SO4 E	Total/NA

### Client Sample ID: AY13760 EB-1

### Lab Sample ID: 400-155115-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2.4	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

# Method Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

Method	Method Description	Protocol	Laboratory
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

- 1
- 2
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- 14

# Sample Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-155115-1	AY13751 MW-4	Water	06/11/18 11:11	06/15/18 09:03
400-155115-2	AY13752 MW-4 DUP	Water	06/11/18 11:11	06/15/18 09:03
400-155115-3	AY13753 MW-3	Water	06/11/18 12:28	06/15/18 09:03
400-155115-4	AY13754 FB-1	Water	06/11/18 13:20	06/15/18 09:03
400-155115-5	AY13755 MW-8	Water	06/12/18 09:08	06/15/18 09:03
400-155115-6	AY13756 MW-4L	Water	06/12/18 10:44	06/15/18 09:03
400-155115-7	AY13757 MW-3L	Water	06/12/18 12:04	06/15/18 09:03
400-155115-8	AY13758 MW-2L	Water	06/12/18 13:30	06/15/18 09:03
400-155115-9	AY13759 MW-1L	Water	06/12/18 14:40	06/15/18 09:03
400-155115-10	AY13760 EB-1	Water	06/12/18 15:05	06/15/18 09:03



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13751 MW-4**

**Lab Sample ID: 400-155115-1**

Date Collected: 06/11/18 11:11

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	81		4.0	1.2	mg/L			06/26/18 14:55	2
Fluoride	0.39		0.10	0.032	mg/L			06/22/18 14:23	1
Sulfate	540	F1 F2	100	28	mg/L			06/26/18 12:14	20

**Client Sample ID: AY13752 MW-4 DUP**

**Lab Sample ID: 400-155115-2**

Date Collected: 06/11/18 11:11

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80		4.0	1.2	mg/L			06/26/18 14:57	2
Fluoride	0.45		0.10	0.032	mg/L			06/22/18 14:27	1
Sulfate	550		100	28	mg/L			06/26/18 12:21	20

**Client Sample ID: AY13753 MW-3**

**Lab Sample ID: 400-155115-3**

Date Collected: 06/11/18 12:28

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	260		20	6.0	mg/L			06/26/18 14:57	10
Fluoride	0.63		0.10	0.032	mg/L			06/22/18 14:31	1
Sulfate	2900		500	140	mg/L			06/26/18 12:35	100

**Client Sample ID: AY13754 FB-1**

**Lab Sample ID: 400-155115-4**

Date Collected: 06/11/18 13:20

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			06/26/18 14:28	1
Fluoride	<0.032		0.10	0.032	mg/L			06/22/18 14:35	1
Sulfate	<1.4		5.0	1.4	mg/L			06/27/18 09:55	1

**Client Sample ID: AY13755 MW-8**

**Lab Sample ID: 400-155115-5**

Date Collected: 06/12/18 09:08

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140	F1	10	3.0	mg/L			06/29/18 07:49	5
Fluoride	0.15		0.10	0.032	mg/L			06/22/18 15:11	1
Sulfate	1800		300	84	mg/L			06/27/18 11:35	60

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13756 MW-4L**

**Lab Sample ID: 400-155115-6**

Date Collected: 06/12/18 10:44

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.7	J	2.0	0.60	mg/L			06/29/18 07:13	1
Fluoride	0.39		0.10	0.032	mg/L			06/22/18 15:14	1
Sulfate	2600		500	140	mg/L			06/27/18 13:46	100

**Client Sample ID: AY13757 MW-3L**

**Lab Sample ID: 400-155115-7**

Date Collected: 06/12/18 12:04

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	J	2.0	0.60	mg/L			06/29/18 07:13	1
Fluoride	0.53		0.10	0.032	mg/L			06/22/18 15:18	1
Sulfate	2500		500	140	mg/L			06/27/18 13:46	100

**Client Sample ID: AY13758 MW-2L**

**Lab Sample ID: 400-155115-8**

Date Collected: 06/12/18 13:30

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7		2.0	0.60	mg/L			06/29/18 07:13	1
Fluoride	0.16		0.10	0.032	mg/L			06/22/18 15:22	1
Sulfate	860		200	56	mg/L			06/27/18 11:35	40

**Client Sample ID: AY13759 MW-1L**

**Lab Sample ID: 400-155115-9**

Date Collected: 06/12/18 14:40

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.3		2.0	0.60	mg/L			06/29/18 07:13	1
Fluoride	0.16		0.10	0.032	mg/L			06/22/18 15:26	1
Sulfate	1500		300	84	mg/L			06/27/18 11:38	60

**Client Sample ID: AY13760 EB-1**

**Lab Sample ID: 400-155115-10**

Date Collected: 06/12/18 15:05

Matrix: Water

Date Received: 06/15/18 09:03

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			06/29/18 07:13	1
Fluoride	<0.032		0.10	0.032	mg/L			06/22/18 15:30	1
Sulfate	2.4	J	5.0	1.4	mg/L			06/27/18 10:02	1

# Definitions/Glossary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13751 MW-4**

**Date Collected: 06/11/18 11:11**

**Date Received: 06/15/18 09:03**

**Lab Sample ID: 400-155115-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		2	402581	06/26/18 14:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 14:23	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	402559	06/26/18 12:14	RRC	TAL PEN

**Client Sample ID: AY13752 MW-4 DUP**

**Date Collected: 06/11/18 11:11**

**Date Received: 06/15/18 09:03**

**Lab Sample ID: 400-155115-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		2	402581	06/26/18 14:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 14:27	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	402559	06/26/18 12:21	RRC	TAL PEN

**Client Sample ID: AY13753 MW-3**

**Date Collected: 06/11/18 12:28**

**Date Received: 06/15/18 09:03**

**Lab Sample ID: 400-155115-3**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		10	402581	06/26/18 14:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 14:31	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	402559	06/26/18 12:35	RRC	TAL PEN

**Client Sample ID: AY13754 FB-1**

**Date Collected: 06/11/18 13:20**

**Date Received: 06/15/18 09:03**

**Lab Sample ID: 400-155115-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	402581	06/26/18 14:28	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 14:35	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402758	06/27/18 09:55	RRC	TAL PEN

**Client Sample ID: AY13755 MW-8**

**Date Collected: 06/12/18 09:08**

**Date Received: 06/15/18 09:03**

**Lab Sample ID: 400-155115-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		5	402962	06/29/18 07:49	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 15:11	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	402758	06/27/18 11:35	RRC	TAL PEN



# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13756 MW-4L**

**Lab Sample ID: 400-155115-6**

**Date Collected: 06/12/18 10:44**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	402962	06/29/18 07:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 15:14	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	402758	06/27/18 13:46	RRC	TAL PEN

**Client Sample ID: AY13757 MW-3L**

**Lab Sample ID: 400-155115-7**

**Date Collected: 06/12/18 12:04**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	402962	06/29/18 07:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 15:18	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	402758	06/27/18 13:46	RRC	TAL PEN

**Client Sample ID: AY13758 MW-2L**

**Lab Sample ID: 400-155115-8**

**Date Collected: 06/12/18 13:30**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	402962	06/29/18 07:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 15:22	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		40	402758	06/27/18 11:35	RRC	TAL PEN

**Client Sample ID: AY13759 MW-1L**

**Lab Sample ID: 400-155115-9**

**Date Collected: 06/12/18 14:40**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	402962	06/29/18 07:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 15:26	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	402758	06/27/18 11:38	RRC	TAL PEN

**Client Sample ID: AY13760 EB-1**

**Lab Sample ID: 400-155115-10**

**Date Collected: 06/12/18 15:05**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	402962	06/29/18 07:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	402217	06/22/18 15:30	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402758	06/27/18 10:02	RRC	TAL PEN

**Laboratory References:**

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TestAmerica Pensacola

# QC Association Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

## General Chemistry

### Analysis Batch: 402217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-1	AY13751 MW-4	Total/NA	Water	SM 4500 F C	
400-155115-2	AY13752 MW-4 DUP	Total/NA	Water	SM 4500 F C	
400-155115-3	AY13753 MW-3	Total/NA	Water	SM 4500 F C	
400-155115-4	AY13754 FB-1	Total/NA	Water	SM 4500 F C	
400-155115-5	AY13755 MW-8	Total/NA	Water	SM 4500 F C	
400-155115-6	AY13756 MW-4L	Total/NA	Water	SM 4500 F C	
400-155115-7	AY13757 MW-3L	Total/NA	Water	SM 4500 F C	
400-155115-8	AY13758 MW-2L	Total/NA	Water	SM 4500 F C	
400-155115-9	AY13759 MW-1L	Total/NA	Water	SM 4500 F C	
400-155115-10	AY13760 EB-1	Total/NA	Water	SM 4500 F C	
MB 400-402217/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-402217/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-155116-A-15 DU	Duplicate	Total/NA	Water	SM 4500 F C	

### Analysis Batch: 402559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-1	AY13751 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-155115-2	AY13752 MW-4 DUP	Total/NA	Water	SM 4500 SO4 E	
400-155115-3	AY13753 MW-3	Total/NA	Water	SM 4500 SO4 E	
MB 400-402559/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-402559/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-402559/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-155115-1 MS	AY13751 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-155115-1 MSD	AY13751 MW-4	Total/NA	Water	SM 4500 SO4 E	

### Analysis Batch: 402581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-1	AY13751 MW-4	Total/NA	Water	SM 4500 CI- E	
400-155115-2	AY13752 MW-4 DUP	Total/NA	Water	SM 4500 CI- E	
400-155115-3	AY13753 MW-3	Total/NA	Water	SM 4500 CI- E	
400-155115-4	AY13754 FB-1	Total/NA	Water	SM 4500 CI- E	
MB 400-402581/6	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 400-402581/7	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
MRL 400-402581/3	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
400-155115-1 MS	AY13751 MW-4	Total/NA	Water	SM 4500 CI- E	
400-155115-1 MSD	AY13751 MW-4	Total/NA	Water	SM 4500 CI- E	

### Analysis Batch: 402758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-4	AY13754 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-155115-5	AY13755 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-155115-6	AY13756 MW-4L	Total/NA	Water	SM 4500 SO4 E	
400-155115-7	AY13757 MW-3L	Total/NA	Water	SM 4500 SO4 E	
400-155115-8	AY13758 MW-2L	Total/NA	Water	SM 4500 SO4 E	
400-155115-9	AY13759 MW-1L	Total/NA	Water	SM 4500 SO4 E	
400-155115-10	AY13760 EB-1	Total/NA	Water	SM 4500 SO4 E	
MB 400-402758/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-402758/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-402758/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-155115-4 MS	AY13754 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-155115-4 MSD	AY13754 FB-1	Total/NA	Water	SM 4500 SO4 E	

TestAmerica Pensacola

# QC Association Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
SDG: Gorgas Gypsum 1154

## General Chemistry (Continued)

### Analysis Batch: 402758 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155116-A-5 DU	Duplicate	Total/NA	Water	SM 4500 SO4 E	

### Analysis Batch: 402962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-5	AY13755 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-155115-6	AY13756 MW-4L	Total/NA	Water	SM 4500 Cl- E	
400-155115-7	AY13757 MW-3L	Total/NA	Water	SM 4500 Cl- E	
400-155115-8	AY13758 MW-2L	Total/NA	Water	SM 4500 Cl- E	
400-155115-9	AY13759 MW-1L	Total/NA	Water	SM 4500 Cl- E	
400-155115-10	AY13760 EB-1	Total/NA	Water	SM 4500 Cl- E	
MB 400-402962/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-402962/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-402962/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-155115-5 MS	AY13755 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-155115-5 MSD	AY13755 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-155116-A-5 DU	Duplicate	Total/NA	Water	SM 4500 Cl- E	

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

## Method: SM 4500 Cl- E - Chloride, Total

**Lab Sample ID: MB 400-402581/6**  
**Matrix: Water**  
**Analysis Batch: 402581**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			06/26/18 14:25	1

**Lab Sample ID: LCS 400-402581/7**  
**Matrix: Water**  
**Analysis Batch: 402581**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	30.9		mg/L		103	90 - 110

**Lab Sample ID: MRL 400-402581/3**  
**Matrix: Water**  
**Analysis Batch: 402581**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.39	J	mg/L		70	50 - 150

**Lab Sample ID: 400-155115-1 MS**  
**Matrix: Water**  
**Analysis Batch: 402581**

**Client Sample ID: AY13751 MW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	81		20.0	87.3	4	mg/L		33	73 - 120

**Lab Sample ID: 400-155115-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 402581**

**Client Sample ID: AY13751 MW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	81		20.0	86.9	4	mg/L		31	73 - 120	0	8

**Lab Sample ID: MB 400-402962/6**  
**Matrix: Water**  
**Analysis Batch: 402962**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			06/29/18 07:10	1

**Lab Sample ID: LCS 400-402962/7**  
**Matrix: Water**  
**Analysis Batch: 402962**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.3		mg/L		104	90 - 110

**Lab Sample ID: MRL 400-402962/3**  
**Matrix: Water**  
**Analysis Batch: 402962**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.95	J	mg/L		98	50 - 150

TestAmerica Pensacola

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

**Lab Sample ID: 400-155115-5 MS**  
**Matrix: Water**  
**Analysis Batch: 402962**

**Client Sample ID: AY13755 MW-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	140	F1	50.0	144	F1	mg/L		2	73 - 120

**Lab Sample ID: 400-155115-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 402962**

**Client Sample ID: AY13755 MW-8**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	140	F1	50.0	143	F1	mg/L		0.8	73 - 120	1	8

**Lab Sample ID: 400-155116-A-5 DU**  
**Matrix: Water**  
**Analysis Batch: 402962**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	2.6		2.69		mg/L		2	8

## Method: SM 4500 F C - Fluoride

**Lab Sample ID: MB 400-402217/3**  
**Matrix: Water**  
**Analysis Batch: 402217**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.032		0.10	0.032	mg/L			06/22/18 13:35	1

**Lab Sample ID: LCS 400-402217/4**  
**Matrix: Water**  
**Analysis Batch: 402217**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.79		mg/L		95	90 - 110

**Lab Sample ID: 400-155116-A-15 DU**  
**Matrix: Water**  
**Analysis Batch: 402217**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	<0.032		<0.032		mg/L		NC	4

## Method: SM 4500 SO4 E - Sulfate, Total

**Lab Sample ID: MB 400-402559/6**  
**Matrix: Water**  
**Analysis Batch: 402559**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<1.4		5.0	1.4	mg/L			06/26/18 10:29	1

TestAmerica Pensacola

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

## Method: SM 4500 SO4 E - Sulfate, Total (Continued)

**Lab Sample ID: LCS 400-402559/7**  
**Matrix: Water**  
**Analysis Batch: 402559**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.6		mg/L		104	90 - 110

**Lab Sample ID: MRL 400-402559/3**  
**Matrix: Water**  
**Analysis Batch: 402559**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.41		mg/L		108	50 - 150

**Lab Sample ID: 400-155115-1 MS**  
**Matrix: Water**  
**Analysis Batch: 402559**

**Client Sample ID: AY13751 MW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	540	F1 F2	200	469	F1	mg/L		-38	77 - 128

**Lab Sample ID: 400-155115-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 402559**

**Client Sample ID: AY13751 MW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Sulfate	540	F1 F2	200	526	F1 F2	mg/L		-9	77 - 128	12	5

**Lab Sample ID: MB 400-402758/6**  
**Matrix: Water**  
**Analysis Batch: 402758**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<1.4		5.0	1.4	mg/L			06/27/18 09:48	1

**Lab Sample ID: LCS 400-402758/7**  
**Matrix: Water**  
**Analysis Batch: 402758**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.3		mg/L		102	90 - 110

**Lab Sample ID: MRL 400-402758/3**  
**Matrix: Water**  
**Analysis Batch: 402758**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.36		mg/L		107	50 - 150

**Lab Sample ID: 400-155115-4 MS**  
**Matrix: Water**  
**Analysis Batch: 402758**

**Client Sample ID: AY13754 FB-1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	<1.4		10.0	11.2		mg/L		112	77 - 128

TestAmerica Pensacola

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

**Lab Sample ID: 400-155115-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 402758**

**Client Sample ID: AY13754 FB-1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	<1.4		10.0	11.1		mg/L		111	77 - 128	0	5

**Lab Sample ID: 400-155116-A-5 DU**  
**Matrix: Water**  
**Analysis Batch: 402758**


**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	5.7		5.73		mg/L		0.3	5

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



**Chain of Custody Record**

<b>Client Information</b> Company: Alabama Power General Test Laboratory Address: 744 County Rd 87 GSC #8 City: Calera State, Zip: AL, 35040 Phone: 205-664-5121 (Tel) Email: sgcopella@southernco.com Project Name: CCR Site: Gorgas Gypsum 1154		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com		Carrier Tracking No(s): COC No: 400-56525-24537.1 Page: Page 1 of 1 Job #: 155115		
<b>Due Date Requested:</b> TAT Requested (days): Routine		<b>Analysis Requested</b>  400-155115 COC				
PO #: WO #: Project #: 40007143 SSOW#:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> N Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N SM 4500 F.C. <input checked="" type="checkbox"/> X SM 4500 Cl.m <input checked="" type="checkbox"/> X SM 4500 SO4.m <input checked="" type="checkbox"/> X 9315_R#226, 9320_R#226, R#226R#228_GFP				
<b>Sample Identification</b>		<b>Special Instructions/Note:</b>				
AY13751	6/11/18	1111	G	Water	2	MW-4
AY13752	6/11/18	1111	G	Water	2	MW-4 Dup (Sample Duplicate)
AY13753	6/11/18	1228	G	Water	4	MW-3
AY13754	6/11/18	1320	G	Water	2	FB-1 (Field Blank)
AY13755	6/12/18	0908	G	Water	2	MW-8
AY13756	6/12/18	1044	G	Water	2	MW-4L
AY13757	6/12/18	1204	G	Water	2	MW-3L
AY13758	6/12/18	1330	G	Water	2	MW-2L
AY13759	6/12/18	1440	G	Water	2	MW-1L
AY13760	6/12/18	1505	G	Water	2	EB-1 (Equipment Blank)
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Deliverable Requested: I, II, III, IV, Other (specify)		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
<b>Empty Kit Relinquished by:</b> Relinquished by: Sarah Copeland Date: 6/14/2018, 0900 Company: APC		<b>Method of Shipment:</b> Received by: _____ Date/Time: _____ Company: _____				
<b>Relinquished by:</b> Relinquished by: _____ Date/Time: _____ Company: _____		Received by: <i>Sarah Copeland</i> Date/Time: 6-15-18 903 Company: TA-PEN				
<b>Custody Seals Intact:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 5.6°C, 4.8°C, 3.7°C 1R-8				



## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-155115-1  
SDG Number: Gorgas Gypsum 1154

**Login Number: 155115**

**List Number: 1**

**Creator: Whitmire, Cheyenne R**

**List Source: TestAmerica Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6°C 4.2°C 3.7°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-1  
 SDG: Gorgas Gypsum 1154

## Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18 *
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	State Program	9	2510	06-30-18 *
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-18 *
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-18 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-155115-2

TestAmerica Sample Delivery Group: Gorgas Gypsum 1154

Client Project/Site: CCR Plant Gorgas

For:

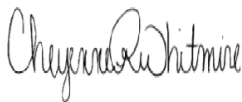
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

7/23/2018 6:19:55 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

[cheyenne.whitmire@testamericainc.com](mailto:cheyenne.whitmire@testamericainc.com)

### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

**Job ID: 400-155115-2**

**Laboratory: TestAmerica Pensacola**

## Narrative

### Job Narrative 400-155115-2

#### RAD

Method(s) 9320: Ra-228 Prep Batch 160-372856. The following sample exhibited a negative result greater in magnitude than the 3 sigma TPU. This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected. No further action is required. AY13758 MW-2L (400-155115-8)

Method(s) PrecSep\_0: Radium 228 Prep Batch 160-372856: Sample aliquots reduced due to limited sample volume. AY13751 MW-4 (400-155115-1), AY13752 MW-4 DUP (400-155115-2), AY13753 MW-3 (400-155115-3), AY13753 MW-3 (400-155115-3[DU]), AY13754 FB-1 (400-155115-4), AY13755 MW-8 (400-155115-5), AY13756 MW-4L (400-155115-6), AY13757 MW-3L (400-155115-7), AY13758 MW-2L (400-155115-8), AY13759 MW-1L (400-155115-9) and AY13760 EB-1 (400-155115-10)

Method(s) PrecSep-21: Radium 226 Prep Batch 160-372802: Sample aliquots reduced due to limited sample volume. AY13751 MW-4 (400-155115-1), AY13752 MW-4 DUP (400-155115-2), AY13753 MW-3 (400-155115-3), AY13753 MW-3 (400-155115-3[DU]), AY13754 FB-1 (400-155115-4), AY13755 MW-8 (400-155115-5), AY13756 MW-4L (400-155115-6), AY13757 MW-3L (400-155115-7), AY13758 MW-2L (400-155115-8), AY13759 MW-1L (400-155115-9) and AY13760 EB-1 (400-155115-10)





# Method Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

#### Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

#### Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Sample Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-155115-1	AY13751 MW-4	Water	06/11/18 11:11	06/15/18 09:03
400-155115-2	AY13752 MW-4 DUP	Water	06/11/18 11:11	06/15/18 09:03
400-155115-3	AY13753 MW-3	Water	06/11/18 12:28	06/15/18 09:03
400-155115-4	AY13754 FB-1	Water	06/11/18 13:20	06/15/18 09:03
400-155115-5	AY13755 MW-8	Water	06/12/18 09:08	06/15/18 09:03
400-155115-6	AY13756 MW-4L	Water	06/12/18 10:44	06/15/18 09:03
400-155115-7	AY13757 MW-3L	Water	06/12/18 12:04	06/15/18 09:03
400-155115-8	AY13758 MW-2L	Water	06/12/18 13:30	06/15/18 09:03
400-155115-9	AY13759 MW-1L	Water	06/12/18 14:40	06/15/18 09:03
400-155115-10	AY13760 EB-1	Water	06/12/18 15:05	06/15/18 09:03

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13751 MW-4**

**Lab Sample ID: 400-155115-1**

**Date Collected: 06/11/18 11:11**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.120	U	0.181	0.182	1.00	0.312	pCi/L	06/27/18 08:50	07/20/18 07:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					06/27/18 08:50	07/20/18 07:38	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.676		0.332	0.338	1.00	0.487	pCi/L	06/27/18 14:07	07/19/18 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					06/27/18 14:07	07/19/18 17:38	1
Y Carrier	84.9		40 - 110					06/27/18 14:07	07/19/18 17:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.796		0.378	0.384	5.00	0.487	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13752 MW-4 DUP**

**Lab Sample ID: 400-155115-2**

**Date Collected: 06/11/18 11:11**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.123	U	0.186	0.186	1.00	0.319	pCi/L	06/27/18 08:50	07/20/18 07:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/27/18 08:50	07/20/18 07:38	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.733		0.305	0.313	1.00	0.426	pCi/L	06/27/18 14:07	07/19/18 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/27/18 14:07	07/19/18 17:38	1
Y Carrier	89.7		40 - 110					06/27/18 14:07	07/19/18 17:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.856		0.357	0.364	5.00	0.426	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13753 MW-3**

**Lab Sample ID: 400-155115-3**

**Date Collected: 06/11/18 12:28**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.212	U	0.195	0.196	1.00	0.292	pCi/L	06/27/18 08:50	07/20/18 07:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/27/18 08:50	07/20/18 07:38	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.561		0.284	0.289	1.00	0.416	pCi/L	06/27/18 14:07	07/19/18 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/27/18 14:07	07/19/18 17:38	1
Y Carrier	93.5		40 - 110					06/27/18 14:07	07/19/18 17:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.773		0.345	0.349	5.00	0.416	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13754 FB-1**

**Lab Sample ID: 400-155115-4**

**Date Collected: 06/11/18 13:20**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0486	U	0.132	0.132	1.00	0.252	pCi/L	06/27/18 08:50	07/20/18 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/27/18 08:50	07/20/18 12:19	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0771	U	0.284	0.284	1.00	0.494	pCi/L	06/27/18 14:07	07/19/18 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					06/27/18 14:07	07/19/18 17:38	1
Y Carrier	89.3		40 - 110					06/27/18 14:07	07/19/18 17:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.126	U	0.313	0.313	5.00	0.494	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13755 MW-8**

**Lab Sample ID: 400-155115-5**

**Date Collected: 06/12/18 09:08**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0973	U	0.144	0.145	1.00	0.248	pCi/L	06/27/18 08:50	07/20/18 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 08:50	07/20/18 12:19	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.348	U	0.295	0.297	1.00	0.469	pCi/L	06/27/18 14:07	07/19/18 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 14:07	07/19/18 17:38	1
Y Carrier	85.2		40 - 110					06/27/18 14:07	07/19/18 17:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.446	U	0.328	0.331	5.00	0.469	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13756 MW-4L**

**Lab Sample ID: 400-155115-6**

**Date Collected: 06/12/18 10:44**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0525	U	0.142	0.142	1.00	0.272	pCi/L	06/27/18 08:50	07/20/18 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 08:50	07/20/18 07:41	1

### Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.100	U	0.257	0.257	1.00	0.445	pCi/L	06/27/18 14:07	07/19/18 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 14:07	07/19/18 17:38	1
Y Carrier	90.1		40 - 110					06/27/18 14:07	07/19/18 17:38	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.153	U	0.294	0.294	5.00	0.445	pCi/L		07/23/18 10:05	1



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13757 MW-3L**

**Lab Sample ID: 400-155115-7**

**Date Collected: 06/12/18 12:04**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0812	U	0.147	0.147	1.00	0.265	pCi/L	06/27/18 08:50	07/20/18 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 08:50	07/20/18 07:41	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.152	U	0.257	0.257	1.00	0.436	pCi/L	06/27/18 14:07	07/19/18 17:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 14:07	07/19/18 17:40	1
Y Carrier	88.2		40 - 110					06/27/18 14:07	07/19/18 17:40	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.234	U	0.296	0.296	5.00	0.436	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13758 MW-2L**

**Lab Sample ID: 400-155115-8**

**Date Collected: 06/12/18 13:30**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0499	U	0.124	0.124	1.00	0.239	pCi/L	06/27/18 08:50	07/20/18 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 08:50	07/20/18 07:41	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.365	U	0.217	0.219	1.00	0.465	pCi/L	06/27/18 14:07	07/19/18 17:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					06/27/18 14:07	07/19/18 17:40	1
Y Carrier	89.0		40 - 110					06/27/18 14:07	07/19/18 17:40	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.315	U	0.250	0.252	5.00	0.465	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13759 MW-1L**

**Lab Sample ID: 400-155115-9**

**Date Collected: 06/12/18 14:40**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.292		0.193	0.195	1.00	0.241	pCi/L	06/27/18 08:50	07/20/18 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/27/18 08:50	07/20/18 07:41	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.883		0.335	0.345	1.00	0.460	pCi/L	06/27/18 14:07	07/19/18 17:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/27/18 14:07	07/19/18 17:40	1
Y Carrier	87.1		40 - 110					06/27/18 14:07	07/19/18 17:40	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.18		0.387	0.396	5.00	0.460	pCi/L		07/23/18 10:05	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13760 EB-1**

**Lab Sample ID: 400-155115-10**

**Date Collected: 06/12/18 15:05**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0519	U	0.123	0.123	1.00	0.236	pCi/L	06/27/18 08:50	07/20/18 07:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/27/18 08:50	07/20/18 07:41	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00829	U	0.268	0.268	1.00	0.483	pCi/L	06/27/18 14:07	07/19/18 17:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/27/18 14:07	07/19/18 17:40	1
Y Carrier	86.0		40 - 110					06/27/18 14:07	07/19/18 17:40	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0436	U	0.295	0.295	5.00	0.483	pCi/L		07/23/18 10:05	1

# Definitions/Glossary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13751 MW-4**

**Lab Sample ID: 400-155115-1**

**Date Collected: 06/11/18 11:11**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376802	07/20/18 07:38	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376497	07/19/18 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13752 MW-4 DUP**

**Lab Sample ID: 400-155115-2**

**Date Collected: 06/11/18 11:11**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376802	07/20/18 07:38	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376497	07/19/18 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13753 MW-3**

**Lab Sample ID: 400-155115-3**

**Date Collected: 06/11/18 12:28**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376802	07/20/18 07:38	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376497	07/19/18 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13754 FB-1**

**Lab Sample ID: 400-155115-4**

**Date Collected: 06/11/18 13:20**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 12:19	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376497	07/19/18 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13755 MW-8**

**Lab Sample ID: 400-155115-5**

**Date Collected: 06/12/18 09:08**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 12:19	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376497	07/19/18 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13756 MW-4L**

**Lab Sample ID: 400-155115-6**

**Date Collected: 06/12/18 10:44**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 07:41	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376497	07/19/18 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13757 MW-3L**

**Lab Sample ID: 400-155115-7**

**Date Collected: 06/12/18 12:04**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 07:41	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376498	07/19/18 17:40	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13758 MW-2L**

**Lab Sample ID: 400-155115-8**

**Date Collected: 06/12/18 13:30**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 07:41	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376498	07/19/18 17:40	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL



# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

**Client Sample ID: AY13759 MW-1L**

**Lab Sample ID: 400-155115-9**

**Date Collected: 06/12/18 14:40**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 07:41	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376498	07/19/18 17:40	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Client Sample ID: AY13760 EB-1**

**Lab Sample ID: 400-155115-10**

**Date Collected: 06/12/18 15:05**

**Matrix: Water**

**Date Received: 06/15/18 09:03**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372802	06/27/18 08:50	JLC	TAL SL
Total/NA	Analysis	9315		1	376804	07/20/18 07:41	RTM	TAL SL
Total/NA	Prep	PrecSep_0			372856	06/27/18 14:07	JLC	TAL SL
Total/NA	Analysis	9320		1	376498	07/19/18 17:40	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377251	07/23/18 10:05	RTM	TAL SL

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# QC Association Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

## Rad

### Prep Batch: 372802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-1	AY13751 MW-4	Total/NA	Water	PrecSep-21	
400-155115-2	AY13752 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-155115-3	AY13753 MW-3	Total/NA	Water	PrecSep-21	
400-155115-4	AY13754 FB-1	Total/NA	Water	PrecSep-21	
400-155115-5	AY13755 MW-8	Total/NA	Water	PrecSep-21	
400-155115-6	AY13756 MW-4L	Total/NA	Water	PrecSep-21	
400-155115-7	AY13757 MW-3L	Total/NA	Water	PrecSep-21	
400-155115-8	AY13758 MW-2L	Total/NA	Water	PrecSep-21	
400-155115-9	AY13759 MW-1L	Total/NA	Water	PrecSep-21	
400-155115-10	AY13760 EB-1	Total/NA	Water	PrecSep-21	
MB 160-372802/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-372802/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-155115-3 DU	AY13753 MW-3	Total/NA	Water	PrecSep-21	

### Prep Batch: 372856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155115-1	AY13751 MW-4	Total/NA	Water	PrecSep_0	
400-155115-2	AY13752 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-155115-3	AY13753 MW-3	Total/NA	Water	PrecSep_0	
400-155115-4	AY13754 FB-1	Total/NA	Water	PrecSep_0	
400-155115-5	AY13755 MW-8	Total/NA	Water	PrecSep_0	
400-155115-6	AY13756 MW-4L	Total/NA	Water	PrecSep_0	
400-155115-7	AY13757 MW-3L	Total/NA	Water	PrecSep_0	
400-155115-8	AY13758 MW-2L	Total/NA	Water	PrecSep_0	
400-155115-9	AY13759 MW-1L	Total/NA	Water	PrecSep_0	
400-155115-10	AY13760 EB-1	Total/NA	Water	PrecSep_0	
MB 160-372856/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-372856/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-155115-3 DU	AY13753 MW-3	Total/NA	Water	PrecSep_0	

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-372802/22-A**  
**Matrix: Water**  
**Analysis Batch: 376801**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 372802**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1743	U	0.178	0.179	1.00	0.274	pCi/L	06/27/18 08:50	07/20/18 09:35	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					06/27/18 08:50	07/20/18 09:35	1

**Lab Sample ID: LCS 160-372802/1-A**  
**Matrix: Water**  
**Analysis Batch: 376802**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 372802**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	15.32		1.90	1.00	0.332	pCi/L	101	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	104		40 - 110						

**Lab Sample ID: 400-155115-3 DU**  
**Matrix: Water**  
**Analysis Batch: 376802**

**Client Sample ID: AY13753 MW-3**  
**Prep Type: Total/NA**  
**Prep Batch: 372802**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.212	U	0.04362	U	0.135	1.00	0.265	pCi/L	0.51	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	102		40 - 110							

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-372856/22-A**  
**Matrix: Water**  
**Analysis Batch: 376495**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 372856**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5428		0.295	0.299	1.00	0.440	pCi/L	06/27/18 14:07	07/19/18 17:30	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					06/27/18 14:07	07/19/18 17:30	1
Y Carrier	88.6		40 - 110					06/27/18 14:07	07/19/18 17:30	1

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-372856/1-A**  
**Matrix: Water**  
**Analysis Batch: 376497**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 372856**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	10.8	9.839		1.19	1.00	0.417	pCi/L	91	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	83.4		40 - 110

**Lab Sample ID: 400-155115-3 DU**  
**Matrix: Water**  
**Analysis Batch: 376497**

**Client Sample ID: AY13753 MW-3**  
**Prep Type: Total/NA**  
**Prep Batch: 372856**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.561		0.3375	U	0.299	1.00	0.477	pCi/L	0.38	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	102		40 - 110
Y Carrier	90.1		40 - 110


## Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

**Lab Sample ID: 400-155115-3 DU**  
**Matrix: Water**  
**Analysis Batch: 377251**

**Client Sample ID: AY13753 MW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.773		0.3811	U	0.328	5.00	0.477	pCi/L	0.58	

### Chain of Custody Record

<b>Client Information</b> Company: Alabama Power General Test Laboratory Address: 744 County Rd 87 GSC #8 City: Calera State, Zip: AL, 35040 Phone: 205-664-5121 (Tel) Email: sgcopela@southernco.com Project Name: CCR Site: Gorgas Gypsum 1154		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com		Carrier Tracking No(s): COC No: 400-56525-24537.1 Page: Page 1 of 1 Job #: 155115								
<b>Due Date Requested:</b> TAT Requested (days): Routine		<b>Analysis Requested</b>  400-155115 COC										
<b>Sample Identification</b>		Total Number of Containers										
Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, On-site, etc)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM 4500 F.C	SM 4500 Cl.m	SM 4500 SO4.m	9315_R#226, 9320_R#226, R#226R#228_GFPc	Special Instructions/Note:
AY13751	6/11/18	1111	G	Water		X	N	X	X	X		MW-4
AY13752	6/11/18	1111	G	Water		X	X	X	X	X		MW-4 Dup (Sample Duplicate)
AY13753	6/11/18	1228	G	Water		Y	X	X	X	X		MW-3
AY13754	6/11/18	1320	G	Water		X	X	X	X	X		FB-1 (Field Blank)
AY13755	6/12/18	0908	G	Water		X	X	X	X	X		MW-8
AY13756	6/12/18	1044	G	Water		X	X	X	X	X		MW-4L
AY13757	6/12/18	1204	G	Water		X	X	X	X	X		MW-3L
AY13758	6/12/18	1330	G	Water		X	X	X	X	X		MW-2L
AY13759	6/12/18	1440	G	Water		X	X	X	X	X		MW-1L
AY13760	6/12/18	1505	G	Water		X	X	X	X	X		EB-1 (Equipment Blank)

Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: Sarah Copeland Date/Time: 6/14/2018, 0900 Company: APC  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No  
 Cooler Temperature(s) °C and Other Remarks: 5.6°C, 4.8°C, 3.7°C IR-8



## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-155115-2  
SDG Number: Gorgas Gypsum 1154

**Login Number: 155115**

**List Number: 1**

**Creator: Whitmire, Cheyenne R**

**List Source: TestAmerica Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6°C 4.2°C 3.7°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-155115-2  
SDG Number: Gorgas Gypsum 1154

**Login Number: 155115**  
**List Number: 2**  
**Creator: Press, Nicholas B**

**List Source: TestAmerica St. Louis**  
**List Creation: 06/19/18 04:20 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18,18,18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
 SDG: Gorgas Gypsum 1154

## Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

## Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18 *
Michigan	State Program	5	9005	06-30-18 *
Missouri	State Program	7	780	06-30-18 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-155115-2  
SDG: Gorgas Gypsum 1154

## Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-18 *
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18 *
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18 *
Texas	NELAP	6	T104704193-17-11	07-31-18 *
US Fish & Wildlife	Federal		058448	07-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18 *
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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

## ***Field Case Narrative***



# **Gorgas Gypsum Storage**

## **2018 Compliance Event 2 & General Chemistry**

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.
  - Equipment Blank 1 (EB-1) had results greater than the reporting limit (RL) for Dissolved Manganese.
- Calibration verifications for all required field parameters were performed daily, before and after sample collection.

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

# Analytical Report



**Sample Group :** WMWGORG\_1173  
**Project/Site :** Gorgas Gypsum  
Parrish, AL 35580  
**For :** Southern Company Services  
3535 Colonnade Parkway  
Birmingham, AL 35243  
**Attention :** Dustin Brooks & Greg Dyer  
**Released By :** Laura Midkiff  
lbmidkif@southernco.com  
(205) 807-2676

The following data has been reviewed and approved by:

**Quality Control:** Laura Midkiff  
Digitally signed by Laura Midkiff  
DN: cn=Laura Midkiff, o=Alabama Power  
Company, ou=Environmental Affairs,  
email=lbmidkif@southernco.com, c=US  
Date: 2018.11.20 13:28:33 -0600

**Supervision:** T. Durant  
Maske

Digitally signed by T. Durant Maske  
DN: cn=T. Durant Maske, o=Alabama  
Power Company, ou=Environmental  
Affairs, email=tdmaske@southernco.com,  
c=US  
Date: 2018.11.28 13:39:14 -0600



Metals ICP

Gorgas Gypsum

WMWGORG\_1173

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY24835	632096	WMWGORG_1173
AY24836	632096	WMWGORG_1173
AY24837	632096	WMWGORG_1173
AY24838	632096	WMWGORG_1173
AY24839	632096	WMWGORG_1173
AY24840	632096	WMWGORG_1173
AY24841	632096	WMWGORG_1173
AY24842	632096	WMWGORG_1173
AY24843	632096	WMWGORG_1173
AY24844	632096	WMWGORG_1173

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

#### General Quality Control Procedures:

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



- The spectral interference check associated with EPA 200.7 was analyzed and all acceptance criteria were met.
- All sample internal standard criteria were met.
- The high standard readbacks associated with EPA 200.7 were within acceptance criteria.
- 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:
    - AY24844 Calcium MS/MS spike level is less than 30% of the sample nominal concentration.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
7. All samples were analyzed at a x2.03 dilution to compensate for potential matrix effects except for the following:

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution</u>
AY24835	Calcium	x10.15
AY24836	Calcium	x101.5
AY24838	Calcium	x101.5
AY24840	Calcium	X20.3
AY24841	Calcium	x10.15
AY24842	Calcium	x10.15
AY24843	Calcium	X50.75
AY24844	Calcium	x10.15

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



Metals ICPMS

Gorgas Gypsum

WMWGORG\_1173

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY24835	631470	WMWGORG_1173
AY24836	631470	WMWGORG_1173
AY24837	631470	WMWGORG_1173
AY24838	631470	WMWGORG_1173
AY24839	631470	WMWGORG_1173
AY24840	631470	WMWGORG_1173
AY24841	631470	WMWGORG_1173
AY24842	631470	WMWGORG_1173
AY24843	631470	WMWGORG_1173
AY24844	631470	WMWGORG_1173

4. All of the above samples were analyzed by EPA 200.8 and prepared by EPA 1638.
5. All samples were 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.

#### Matrix Specific Quality Control Procedures:

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

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for accuracy were met.
  - A matrix spike and matrix spike duplicate were digested and analyzed with each ICPMS batch. All acceptance criteria for precision were met.
7. All samples were analyzed at a x5.075 dilution to compensate for potential matrix effects.
  8. The raw data results are shown with dilution factors included.



Mercury

Gorgas Gypsum

WMWGORG\_1173

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY24835	630702	WMWGORG_1173
AY24836	630702	WMWGORG_1173
AY24837	630702	WMWGORG_1173
AY24838	630702	WMWGORG_1173
AY24839	630702	WMWGORG_1173
AY24840	630702	WMWGORG_1173
AY24841	630702	WMWGORG_1173
AY24842	630702	WMWGORG_1173
AY24843	630702	WMWGORG_1173
AY24844	630703	WMWGORG_1173

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

#### General Quality Control Procedures:

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



Matrix Specific Quality Control Procedures:

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

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



TDS

Gorgas Gypsum

WMWGORG\_1173

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 are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

<u>Sample ID</u>	<u>Batch ID</u>	<u>Project ID</u>
AY24835	630913	WMWGORG_1173
AY24836	630913	WMWGORG_1173
AY24837	630913	WMWGORG_1173
AY24838	630913	WMWGORG_1173
AY24839	630913	WMWGORG_1173
AY24840	630914	WMWGORG_1173
AY24841	630914	WMWGORG_1173
AY24842	630914	WMWGORG_1173
AY24843	630914	WMWGORG_1173
AY24844	630914	WMWGORG_1173

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

#### General Quality Control Procedures:

- A Method Blank was analyzed with each batch. All criteria were met.
- All final weights of samples, standards, and blanks agreed within 0.5mg of the previous weight.
- A sample duplicate was analyzed with each batch. RPD/2 was less than 5%.
  - Precision was outside of the acceptable limits for sample AY24839, but the results were below the reporting limit. Therefore, the results are acceptable.
- 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:
  - AY24837
  - AY24839

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY24835

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	0.0125	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	0.00369	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	3.98	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	117	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	0.00188	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	0.154	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	0.266	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		50	928	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY24835

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046	96.8	70 to 130	0.312	20
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115	101	70 to 130	1.40	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115	97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115	92.7	70 to 130	0.332	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115	100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115	100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115	93.7	70 to 130	1.32	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115	104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115	113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15	101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75	490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23	122	70 to 130	2.26	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115	99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115	105	70 to 130	3.76	20
AY24844	Cadmium, Total	mg/L	0.0000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115	103	70 to 130	1.60	20

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.

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY24835

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec		
			Limit	Limit			Duplicate	LCS	Limit	Limit	Prec	Limit
AY24839	Solids, Dissolved	mg/L	-9.00	25			0.67	56.0	40 to 60		0.00	5

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

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Comments:

CC:



Alabama Power General Test Laboratory  
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 (205) 664-6032 or 6171  
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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY24836

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	0.0130	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	0.00345	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	2.59	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		101.5	10.15	50.75	533	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	0.138	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	0.494	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		250	4910	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY24836

Sample	Analysis	Units	MB		MS	MSD	LCS	LCS Limit	Rec	Rec Limit	Prec	Prec Limit	
			MB	Limit									
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115	103	70 to 130	1.60	20
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046	96.8	70 to 130	0.312	20
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115	101	70 to 130	1.40	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115	99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115	105	70 to 130	3.76	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115	97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115	92.7	70 to 130	0.332	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115	104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115	113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15	101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75	490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23	122	70 to 130	2.26	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115	100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115	100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115	93.7	70 to 130	1.32	20

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY24836

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec		
			Limit	Limit			Duplicate	LCS	Limit	Limit	Prec	Limit
AY24839	Solids, Dissolved	mg/L	-9.00	25			0.67	56.0	40 to 60		0.00	5

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

CC:

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

# Certificate Of Analysis



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGE  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY24837

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	U Not Detected	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	U Not Detected	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		25	U Not Detected	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY24837

Sample	Analysis	Units	MB		MS	MSD	LCS	LCS		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046	96.8	70 to 130	0.312	20
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115	101	70 to 130	1.40	20
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115	103	70 to 130	1.60	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115	97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115	92.7	70 to 130	0.332	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115	100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115	100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115	93.7	70 to 130	1.32	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115	104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115	113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15	101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75	490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23	122	70 to 130	2.26	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115	99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115	105	70 to 130	3.76	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGE  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY24837

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec		
			Limit	Limit			Duplicate	LCS	Limit	Limit	Prec	Limit
AY24839	Solids, Dissolved	mg/L	-9.00	25			0.67	56.0	40 to 60		0.00	5

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report  
 Laboratory certification ID: E571114  
 Issued By: State of Florida, Department of Health  
 Expiration: June 30, 2019

Comments:

CC:

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

# Certificate Of Analysis



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY24838

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	0.0236	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	0.616	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		101.5	10.15	50.75	514	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	U Not Detected	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	0.188	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		250	3550	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**



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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY24838

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec Limit	
			MB	Limit					Limit	Rec	Limit	Prec		
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115		103	70 to 130	1.60	20
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115		101	70 to 130	1.40	20
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046		96.8	70 to 130	0.312	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115		99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115		105	70 to 130	3.76	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115		100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115		100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115		93.7	70 to 130	1.32	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115		97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115		92.7	70 to 130	0.332	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115		104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115		113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15		101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75		490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23		122	70 to 130	2.26	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY24838

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec		
			Limit	Limit			Duplicate	LCS	Limit	Limit		
AY24839	Solids, Dissolved	mg/L	-9.00	25			0.67	56.0	40 to 60		0.00	5

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY24839

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	U Not Detected	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	U Not Detected	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		25	U Not Detected	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments: Precision failed for TDS, but the results were below the reporting limit. Therefore, the result is acceptable. LBM 10/26/18

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY24839

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec	Limit
				Limit	Spike				Limit	Rec	Limit	Prec		
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046		96.8	70 to 130	0.312	20
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115		101	70 to 130	1.40	20
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115		103	70 to 130	1.60	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115		97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115		92.7	70 to 130	0.332	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115		104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115		113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15		101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75		490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23		122	70 to 130	2.26	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115		100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115		100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115		93.7	70 to 130	1.32	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115		99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115		105	70 to 130	3.76	20

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments: Precision failed for TDS, but the results were below the reporting limit. Therefore, the result is acceptable. LBM 10/26/18

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY24839

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec		
			Limit	Limit			Duplicate	LCS	Limit	Limit	Prec	Limit
AY24839	Solids, Dissolved	mg/L	-9.00	25			0.67	56.0	40 to 60		0.00	5

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments: Precision failed for TDS, but the results were below the reporting limit. Therefore, the result is acceptable. LBM 10/26/18

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY24840

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	0.0119	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	J 0.0468	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		20.3	2.03	10.15	342	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	U Not Detected	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	0.0532	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		250	4250	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY24840

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec	
				Limit	Spike				Limit	Rec	Limit	Prec		
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115		101	70 to 130	1.40	20
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046		96.8	70 to 130	0.312	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115		100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115		100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115		93.7	70 to 130	1.32	20
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115		103	70 to 130	1.60	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115		99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115		105	70 to 130	3.76	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115		104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115		113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15		101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75		490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23		122	70 to 130	2.26	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115		97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115		92.7	70 to 130	0.332	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**



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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY24840

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Rec	Prec	Prec	Limit
								Duplicate	LCS			Limit	Limit			
AY24844	Solids, Dissolved	mg/L	-9.00		25			2240	56.0		40 to 60			0.224	5	

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Laboratory certification ID: E571114

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CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY24841

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	0.0137	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	J 0.0321	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	200	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	0.0745	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	0.0633	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		125	1740	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY24841

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS		Rec		Prec
				Limit	Spike				Limit	Rec	Limit	Prec	
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115	101	70 to 130	1.40	20
AY24844	Cadmium, Total	mg/L	0.0000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115	103	70 to 130	1.60	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115	97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115	92.7	70 to 130	0.332	20
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046	96.8	70 to 130	0.312	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115	100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115	100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115	93.7	70 to 130	1.32	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115	99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115	105	70 to 130	3.76	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115	104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115	113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15	101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75	490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23	122	70 to 130	2.26	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY24841

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	Rec	Prec	
			Limit	Limit			Duplicate	LCS	Limit	Limit	
AY24844	Solids, Dissolved	mg/L	-9.00	25			2240	56.0	40 to 60	0.224	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L DUP

Laboratory ID Number: AY24842

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	0.0119	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	J 0.0287	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	197	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	U Not Detected	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	0.0751	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	0.0638	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		125	1740	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L DUP

Laboratory ID Number: AY24842

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	Limit	
			Limit	MB					Limit	Rec	Limit	Prec			
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115		101	70 to 130		1.40	20
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046		96.8	70 to 130		0.312	20
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115		103	70 to 130		1.60	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115		100	70 to 130		1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115		100	70 to 130		0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115		93.7	70 to 130		1.32	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115		97.9	70 to 130		1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115		92.7	70 to 130		0.332	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115		104	70 to 130		1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115		113	70 to 130		2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15		101	70 to 130		1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75		490	70 to 130		15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23		122	70 to 130		2.26	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115		99.5	70 to 130		0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115		105	70 to 130		3.76	20

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:**

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L DUP

Laboratory ID Number: AY24842

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LCS	LCS	Rec	Prec	Prec	
				Limit			Duplicate	LCS	Limit	Rec	Limit	Limit	
AY24844	Solids, Dissolved	mg/L	-9.00	25			2240	56.0	40 to 60			0.224	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

CC:



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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY24843

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q	Results	Units
<b>Metals, Cyanide, Total Phenols</b>										
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	J	0.00133	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01		0.0126	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003		0.0121	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	J	0.0596	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		50.75	5.075	25.375		392	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001		0.00393	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U	Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005		0.490	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U	Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02		0.384	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U	Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	J	0.00102	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U	Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U	Not Detected	mg/L
<b>General Characteristics</b>										
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		250		4730	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1				10/22/2018	Date

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY24843

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec Limit	
			MB	Limit					Limit	Rec	Limit	Prec		
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115		101	70 to 130	1.40	20
AY24843	Mercury, Total by CVAA	mg/L	0.000152	0.0005	0.004	0.00387	0.00388	0.00377	0.0034 to 0.0046		96.8	70 to 130	0.312	20
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115		103	70 to 130	1.60	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115		100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115		100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115		93.7	70 to 130	1.32	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115		99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115		105	70 to 130	3.76	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115		104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115		113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15		101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75		490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23		122	70 to 130	2.26	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115		97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115		92.7	70 to 130	0.332	20

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.

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**Comments:**

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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY24843

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Rec	Prec	Prec	Limit
								Duplicate	LCS			Limit	Limit			
AY24844	Solids, Dissolved	mg/L	-9.00		25			2240	56.0		40 to 60			0.224		5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments:

CC:

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY24844

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Arsenic, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	J 0.00952	mg/L
* Beryllium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.02	0.1	J 0.0216	mg/L
* Calcium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	171	mg/L
* Cadmium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0003	0.001	0.00228	mg/L
* Antimony, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0008	0.003	U Not Detected	mg/L
* Cobalt, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.005	0.0751	mg/L
* Chromium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	GAS	10/25/2018	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.02	J 0.0250	mg/L
* Molybdenum, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
<b>General Characteristics</b>									
* Solids, Dissolved	CRB	10/25/2018	SM 2540C		1		125	2220	mg/L
Filter Completion Date	CRB	10/22/2018	SM 2540C		1			10/22/2018	Date

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments: Recovery for Calcium is out of spec. Spike amount is less than 30% of the sample amount. LBM 11/13/18

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY24844

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec Limit	
			Limit	MB					Limit	Rec	Limit	Prec		
AY24844	Cadmium, Total	mg/L	0.000000	0.00066	0.10	0.105	0.107	0.109	0.085 to 0.115		103	70 to 130	1.60	20
AY24844	Antimony, Total	mg/L	0.0000559	0.00176	0.10	0.0979	0.0968	0.101	0.085 to 0.115		97.9	70 to 130	1.12	20
AY24844	Thallium, Total	mg/L	0.00000748	0.00044	0.10	0.0927	0.0923	0.102	0.085 to 0.115		92.7	70 to 130	0.332	20
AY24844	Barium, Total	mg/L	0.0000124	0.0044	0.10	0.110	0.108	0.101	0.085 to 0.115		100	70 to 130	1.42	20
AY24844	Cobalt, Total	mg/L	0.00000434	0.0044	0.10	0.175	0.175	0.0986	0.085 to 0.115		100	70 to 130	0.0965	20
AY24844	Lead, Total	mg/L	0.0000152	0.0022	0.10	0.0937	0.0949	0.0977	0.085 to 0.115		93.7	70 to 130	1.32	20
AY24844	Chromium, Total	mg/L	0.0000117	0.0044	0.10	0.101	0.0999	0.0986	0.085 to 0.115		101	70 to 130	1.40	20
AY24844	Mercury, Total by CVAA	mg/L	0.000106	0.0005	0.004	0.00340	0.00352	0.00346	0.0034 to 0.0046		85.1	70 to 130	3.22	20
AY24844	Arsenic, Total	mg/L	0.00000881	0.0022	0.10	0.104	0.102	0.107	0.085 to 0.115		104	70 to 130	1.86	20
AY24844	Beryllium, Total	mg/L	0.0000943	0.00132	0.10	0.113	0.111	0.110	0.085 to 0.115		113	70 to 130	2.56	20
AY24844	Boron, Total	mg/L	-0.0000751	0.044	1.00	1.03	1.01	0.975	0.85 to 1.15		101	70 to 130	1.96	20
AY24844	Calcium, Total	mg/L	0.000163	0.22	5.00	196	167	4.95	4.25 to 5.75		490	70 to 130	15.7	20
AY24844	Lithium, Total	mg/L	0.0000360	0.022	0.200	0.268	0.262	0.192	0.17 to 0.23		122	70 to 130	2.26	20
AY24844	Molybdenum, Total	mg/L	0.0000288	0.0044	0.10	0.0995	0.0992	0.0961	0.085 to 0.115		99.5	70 to 130	0.341	20
AY24844	Selenium, Total	mg/L	0.0000476	0.0044	0.10	0.105	0.101	0.104	0.085 to 0.115		105	70 to 130	3.76	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments: Recovery for Calcium is out of spec. Spike amount is less than 30% of the sample amount. LBM 11/13/18

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# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY24844

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LCS	LCS	Limit	Rec	Prec	Prec	Limit
								Duplicate	LCS			Rec	Limit	Prec	Limit
AY24844	Solids, Dissolved	mg/L	-9.00		25			2240	56.0		40 to 60			0.224	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

Comments: Recovery for Calcium is out of spec. Spike amount is less than 30% of the sample amount. LBM 11/13/18

CC:

## Definitions



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
B	Analyte found in reagent blank. Indicates possible reagent or background contamination.
E	Estimated reported value exceeded calibration range.
J	Reported value is an estimate because concentration is less than reporting limit.
N	Organic constituents tentatively identified. Confirmation is needed.
R	Matrix spike recovery is out of range.
U	Compound was analyzed, but not detected.
P	Precision is out of range.
C	Analyte was verified by re-analysis.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.
L	Check standard is outside of the required specification limit.
D	All samples were stored at less than or equal to 6 °C and for no longer than 48 hours from time of sampling, unless otherwise noted.
F	Water Field Group (WFG) qualifier; see comments for more information











# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-160930-2

TestAmerica Sample Delivery Group: Gorgas Gypsum 1173

Client Project/Site: CCR Plant Gorgas

For:

Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Laura Midkiff



Authorized for release by:

11/27/2018 11:35:51 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

[cheyenne.whitmire@testamericainc.com](mailto:cheyenne.whitmire@testamericainc.com)

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

**Job ID: 400-160930-2**

**Laboratory: TestAmerica Pensacola**

## Narrative

### Job Narrative 400-160930-2

#### RAD

Method(s) PrecSep\_0: Radium 228 Prep Batch 160-397471: The following samples were prepared at a reduced aliquot due to limited sample volume. AY24845 MW-4 (400-160930-1), AY24846 MW-3 (400-160930-2), AY24847 EB-1 (400-160930-3), AY24848 MW-8 (400-160930-4), AY24849 FB-1 (400-160930-5), AY24850 MW-4L (400-160930-6), AY24850 MW-4L (400-160930-6[DUJ]), AY24851 MW-2L (400-160930-7), AY24852 MW-2L DUP (400-160930-8), AY24853 MW-3L (400-160930-9) and AY24854 MW-1L (400-160930-10). Sample aliquots 680-159481-1 and 680-159664-3 reduced due to potential matrix interference. Samples were reduced due to discoloration and heavy sediment levels.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-397461: The following samples were prepared at a reduced aliquot due to limited sample volume. AY24845 MW-4 (400-160930-1), AY24846 MW-3 (400-160930-2), AY24847 EB-1 (400-160930-3), AY24848 MW-8 (400-160930-4), AY24849 FB-1 (400-160930-5), AY24850 MW-4L (400-160930-6), AY24850 MW-4L (400-160930-6[DUJ]), AY24851 MW-2L (400-160930-7), AY24852 MW-2L DUP (400-160930-8), AY24853 MW-3L (400-160930-9) and AY24854 MW-1L (400-160930-10). Sample aliquots 680-159481-1 and 680-159664-3 reduced due to potential matrix interference. Samples were reduced due to discoloration and heavy sediment levels.



# Method Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

#### Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

#### Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160930-1	AY24845 MW-4	Water	10/17/18 09:43	10/22/18 17:20
400-160930-2	AY24846 MW-3	Water	10/17/18 10:45	10/22/18 17:20
400-160930-3	AY24847 EB-1	Water	10/17/18 11:20	10/22/18 17:20
400-160930-4	AY24848 MW-8	Water	10/17/18 12:19	10/22/18 17:20
400-160930-5	AY24849 FB-1	Water	10/17/18 13:15	10/22/18 17:20
400-160930-6	AY24850 MW-4L	Water	10/17/18 14:18	10/22/18 17:20
400-160930-7	AY24851 MW-2L	Water	10/17/18 15:39	10/22/18 17:20
400-160930-8	AY24852 MW-2L DUP	Water	10/17/18 15:39	10/22/18 17:20
400-160930-9	AY24853 MW-3L	Water	10/17/18 14:53	10/22/18 17:20
400-160930-10	AY24854 MW-1L	Water	10/17/18 16:05	10/22/18 17:20

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24845 MW-4**

**Lab Sample ID: 400-160930-1**

**Date Collected: 10/17/18 09:43**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.319		0.143	0.146	1.00	0.154	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.603	U	0.472	0.476	1.00	0.751	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	78.5		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.922		0.493	0.498	5.00	0.751	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24846 MW-3**

**Lab Sample ID: 400-160930-2**

**Date Collected: 10/17/18 10:45**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.346		0.142	0.146	1.00	0.148	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.322	U	0.336	0.337	1.00	0.547	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	80.7		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.668		0.365	0.367	5.00	0.547	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24847 EB-1**

**Lab Sample ID: 400-160930-3**

**Date Collected: 10/17/18 11:20**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.310		0.141	0.144	1.00	0.148	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.198	U	0.399	0.399	1.00	0.681	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	77.4		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.509	U	0.423	0.424	5.00	0.681	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24848 MW-8**

**Lab Sample ID: 400-160930-4**

**Date Collected: 10/17/18 12:19**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.354		0.153	0.157	1.00	0.169	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.696		0.437	0.442	1.00	0.671	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	76.3		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.05		0.463	0.469	5.00	0.671	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24849 FB-1**

**Lab Sample ID: 400-160930-5**

**Date Collected: 10/17/18 13:15**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.186		0.119	0.120	1.00	0.153	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.393	U	0.422	0.424	1.00	0.691	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	81.1		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.579	U	0.438	0.441	5.00	0.691	pCi/L		11/26/18 15:23	1



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24850 MW-4L**

**Lab Sample ID: 400-160930-6**

**Date Collected: 10/17/18 14:18**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.229		0.135	0.136	1.00	0.178	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0843	U	0.341	0.341	1.00	0.597	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	76.3		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.313	U	0.367	0.367	5.00	0.597	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24851 MW-2L**

**Lab Sample ID: 400-160930-7**

**Date Collected: 10/17/18 15:39**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.435		0.157	0.162	1.00	0.149	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.139	U	0.344	0.344	1.00	0.591	pCi/L	10/26/18 10:46	11/14/18 16:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					10/26/18 10:46	11/14/18 16:11	1
Y Carrier	82.2		40 - 110					10/26/18 10:46	11/14/18 16:11	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.574	U	0.378	0.380	5.00	0.591	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24852 MW-2L DUP**

**Lab Sample ID: 400-160930-8**

**Date Collected: 10/17/18 15:39**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.221		0.125	0.127	1.00	0.159	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.369	U	0.435	0.436	1.00	0.717	pCi/L	10/26/18 10:46	11/14/18 16:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					10/26/18 10:46	11/14/18 16:12	1
Y Carrier	81.5		40 - 110					10/26/18 10:46	11/14/18 16:12	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.590	U	0.453	0.454	5.00	0.717	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24853 MW-3L**

**Lab Sample ID: 400-160930-9**

**Date Collected: 10/17/18 14:53**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.398		0.151	0.155	1.00	0.145	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.453	U	0.420	0.422	1.00	0.679	pCi/L	10/26/18 10:46	11/14/18 16:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.8		40 - 110					10/26/18 10:46	11/14/18 16:12	1
Y Carrier	82.2		40 - 110					10/26/18 10:46	11/14/18 16:12	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.852		0.446	0.450	5.00	0.679	pCi/L		11/26/18 15:23	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24854 MW-1L**

**Lab Sample ID: 400-160930-10**

**Date Collected: 10/17/18 16:05**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.308		0.132	0.135	1.00	0.143	pCi/L	10/26/18 10:06	11/20/18 05:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/26/18 10:06	11/20/18 05:35	1

**Method: 9320 - Radium-228 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.246	U	0.348	0.349	1.00	0.582	pCi/L	10/26/18 10:46	11/14/18 16:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/26/18 10:46	11/14/18 16:12	1
Y Carrier	86.7		40 - 110					10/26/18 10:46	11/14/18 16:12	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.553	U	0.372	0.374	5.00	0.582	pCi/L		11/26/18 15:23	1

# Definitions/Glossary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24845 MW-4**  
**Date Collected: 10/17/18 09:43**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24846 MW-3**  
**Date Collected: 10/17/18 10:45**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24847 EB-1**  
**Date Collected: 10/17/18 11:20**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24848 MW-8**  
**Date Collected: 10/17/18 12:19**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24849 FB-1**

**Lab Sample ID: 400-160930-5**

**Date Collected: 10/17/18 13:15**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24850 MW-4L**

**Lab Sample ID: 400-160930-6**

**Date Collected: 10/17/18 14:18**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24851 MW-2L**

**Lab Sample ID: 400-160930-7**

**Date Collected: 10/17/18 15:39**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:11	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24852 MW-2L DUP**

**Lab Sample ID: 400-160930-8**

**Date Collected: 10/17/18 15:39**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:12	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL



# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24853 MW-3L**

**Lab Sample ID: 400-160930-9**

**Date Collected: 10/17/18 14:53**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:12	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Client Sample ID: AY24854 MW-1L**

**Lab Sample ID: 400-160930-10**

**Date Collected: 10/17/18 16:05**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397461	10/26/18 10:06	JLC	TAL SL
Total/NA	Analysis	9315		1	401803	11/20/18 05:35	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397471	10/26/18 10:46	JLC	TAL SL
Total/NA	Analysis	9320		1	400864	11/14/18 16:12	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	402686	11/26/18 15:23	RTM	TAL SL

**Laboratory References:**

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# QC Association Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

## Rad

### Prep Batch: 397461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-1	AY24845 MW-4	Total/NA	Water	PrecSep-21	
400-160930-2	AY24846 MW-3	Total/NA	Water	PrecSep-21	
400-160930-3	AY24847 EB-1	Total/NA	Water	PrecSep-21	
400-160930-4	AY24848 MW-8	Total/NA	Water	PrecSep-21	
400-160930-5	AY24849 FB-1	Total/NA	Water	PrecSep-21	
400-160930-6	AY24850 MW-4L	Total/NA	Water	PrecSep-21	
400-160930-7	AY24851 MW-2L	Total/NA	Water	PrecSep-21	
400-160930-8	AY24852 MW-2L DUP	Total/NA	Water	PrecSep-21	
400-160930-9	AY24853 MW-3L	Total/NA	Water	PrecSep-21	
400-160930-10	AY24854 MW-1L	Total/NA	Water	PrecSep-21	
MB 160-397461/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-397461/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-160930-6 DU	AY24850 MW-4L	Total/NA	Water	PrecSep-21	

### Prep Batch: 397471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-1	AY24845 MW-4	Total/NA	Water	PrecSep_0	
400-160930-2	AY24846 MW-3	Total/NA	Water	PrecSep_0	
400-160930-3	AY24847 EB-1	Total/NA	Water	PrecSep_0	
400-160930-4	AY24848 MW-8	Total/NA	Water	PrecSep_0	
400-160930-5	AY24849 FB-1	Total/NA	Water	PrecSep_0	
400-160930-6	AY24850 MW-4L	Total/NA	Water	PrecSep_0	
400-160930-7	AY24851 MW-2L	Total/NA	Water	PrecSep_0	
400-160930-8	AY24852 MW-2L DUP	Total/NA	Water	PrecSep_0	
400-160930-9	AY24853 MW-3L	Total/NA	Water	PrecSep_0	
400-160930-10	AY24854 MW-1L	Total/NA	Water	PrecSep_0	
MB 160-397471/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-397471/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-160930-6 DU	AY24850 MW-4L	Total/NA	Water	PrecSep_0	

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-397461/24-A**  
**Matrix: Water**  
**Analysis Batch: 401802**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 397461**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2816		0.127	0.129	1.00	0.136	pCi/L	10/26/18 10:06	11/20/18 05:38	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					10/26/18 10:06	11/20/18 05:38	1

**Lab Sample ID: LCS 160-397461/1-A**  
**Matrix: Water**  
**Analysis Batch: 401803**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 397461**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	14.30		1.52	1.00	0.155	pCi/L	94	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	89.4		40 - 110						

**Lab Sample ID: 400-160930-6 DU**  
**Matrix: Water**  
**Analysis Batch: 401803**

**Client Sample ID: AY24850 MW-4L**  
**Prep Type: Total/NA**  
**Prep Batch: 397461**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.229		0.3474		0.147	1.00	0.151	pCi/L	0.42	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	97.1		40 - 110							

## Method: 9320 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-397471/24-A**  
**Matrix: Water**  
**Analysis Batch: 400864**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 397471**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3213	U	0.337	0.338	1.00	0.549	pCi/L	10/26/18 10:46	11/14/18 16:14	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					10/26/18 10:46	11/14/18 16:14	1
Y Carrier	80.0		40 - 110					10/26/18 10:46	11/14/18 16:14	1

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

## Method: 9320 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-397471/1-A**  
**Matrix: Water**  
**Analysis Batch: 400864**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 397471**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	12.3	12.62		1.54	1.00	0.643	pCi/L	103	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	89.4		40 - 110
Y Carrier	75.5		40 - 110

**Lab Sample ID: 400-160930-6 DU**  
**Matrix: Water**  
**Analysis Batch: 400864**

**Client Sample ID: AY24850 MW-4L**  
**Prep Type: Total/NA**  
**Prep Batch: 397471**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.0843	U	0.7933		0.402	1.00	0.584	pCi/L	0.95	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	97.1		40 - 110
Y Carrier	79.6		40 - 110

## Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

**Lab Sample ID: 400-160930-6 DU**  
**Matrix: Water**  
**Analysis Batch: 402686**

**Client Sample ID: AY24850 MW-4L**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.313	U	1.141		0.428	5.00	0.584	pCi/L	1.04	





**Chain of Custody Record**

<b>Client Information</b>		Lab PM: Whitmire, Cheyenne R		Carrier Tracking No(s)		COC No: 400-86525-24537.1	
Company: Alabama Power General Test Laboratory		E-Mail: cheyenne.whitmire@testamericainc.com		Page: 2 of 2		Job #:	
Address: 744 County Rd 87 GSC #8		City: Calera		State: AL		Zip: 35040	
Phone: 205-664-6197 (Tel)		Email: lbmidkiff@southernco.com		Project Name: Gorgas Gypsum 1173		Project #: 40007143	
CCR		SSOW#		Due Date Requested:		TAT Requested (days): Routine	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
AY24853		10/17/18		14:53		G Water	
AY24854		10/17/18		16:05		G Water	
Matrix (w/water, solid, or washoil, or tissue, Ash)		Preservation Code:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)	
SM 4500 F.C		N		X		X	
SM 4500 CLE				X		X	
SM 4500 SO4.E				X		X	
9315 Ra226, 9320 Ra228, Ra226Ra228_GFP				X		X	
Total Number of containers				2		MW-3L	
				2		MW-1L	
Special Instructions/Note:							
Preservation Codes:							
A - HCL							
M - Hexane							
B - NaOH							
N - None							
C - Zn Acetate							
O - AsNaO2							
D - Nitric Acid							
P - Na2O4S							
E - NaHSO4							
F - MeOH							
R - Na2S2O3							
S - H2SO4							
G - Amchlor							
H - Ascorbic Acid							
T - TSP Dodecahydrate							
I - Ice							
J - DI Water							
K - EDTA							
L - EDA							
W - ph-45							
V - MCA							
Z - other (specify)							
Other:							
Analysis Requested							
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
Return To Client							
Disposal By Lab							
Archive For							
Months							
Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment	
Relinquished by: Laura Midkiff		Date/Time: 10/19/2018, 16:50		Company: APC		Company: APC	
Relinquished by:		Date/Time:		Company:		Company:	
Relinquished by:		Date/Time:		Company:		Company:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			
Δ Yes Δ No							



## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-160930-2  
SDG Number: Gorgas Gypsum 1173

**Login Number: 160930**

**List Number: 1**

**Creator: Johnson, Jeremy N**

**List Source: TestAmerica Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.5°C 24.4°C 25.4°C IR8 Rads, 1.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-160930-2  
SDG Number: Gorgas Gypsum 1173

**Login Number: 160930**

**List Number: 2**

**Creator: Hellm, Michael**

**List Source: TestAmerica St. Louis**

**List Creation: 10/25/18 10:05 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	15.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
 SDG: Gorgas Gypsum 1173

## Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

## Laboratory: TestAmerica St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18 *
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-18 *
Iowa	State Program	7	373	12-01-18 *
Kansas	NELAP	7	E-10236	10-31-18 *
Kentucky (DW)	State Program	4	90125	12-31-18
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18 *
Maryland	State Program	3	310	09-30-19
Michigan	State Program	5	9005	06-30-18 *
Missouri	State Program	7	780	06-30-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-2  
SDG: Gorgas Gypsum 1173

## Laboratory: TestAmerica St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-12	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-160930-1

TestAmerica Sample Delivery Group: Gorgas Gypsum 1173

Client Project/Site: CCR Plant Gorgas

Revision: 1

For:

Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

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Authorized for release by:

11/5/2018 9:30:47 AM

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*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

**Job ID: 400-160930-1**

**Laboratory: TestAmerica Pensacola**

## Narrative

### Job Narrative 400-160930-1

#### General Chemistry

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AY24845 MW-4 (400-160930-1), AY24846 MW-3 (400-160930-2) and AY24848 MW-8 (400-160930-4). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 417838 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: Due to the concentration of chlorides in the sample the MS/MSD were diluted after the spike. The spike amounts were adjusted by the dilution factor. (400-160912-A-1 MS) and (400-160912-A-1 MSD)

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AY24845 MW-4 (400-160930-1), AY24846 MW-3 (400-160930-2), AY24848 MW-8 (400-160930-4), AY24850 MW-4L (400-160930-6), AY24851 MW-2L (400-160930-7), AY24852 MW-2L DUP (400-160930-8), AY24853 MW-3L (400-160930-9), AY24854 MW-1L (400-160930-10), (400-160930-C-1 MS) and (400-160930-C-1 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: Due to the concentration of sulfates in the sample the MS/MSD were diluted after the spike. The spike amounts were adjusted for the dilution factor. (400-160930-C-1 MS) and (400-160930-C-1 MSD)

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 417786 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

# Detection Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

## Client Sample ID: AY24845 MW-4

## Lab Sample ID: 400-160930-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	85		10	7.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.44		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	520		100	28	mg/L	20		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24846 MW-3

## Lab Sample ID: 400-160930-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	270		20	14	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.78		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2800		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24847 EB-1

## Lab Sample ID: 400-160930-3

No Detections.

## Client Sample ID: AY24848 MW-8

## Lab Sample ID: 400-160930-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	180		20	14	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1600		300	84	mg/L	60		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24849 FB-1

## Lab Sample ID: 400-160930-5

No Detections.

## Client Sample ID: AY24850 MW-4L

## Lab Sample ID: 400-160930-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.5	J	2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.39		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2600		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24851 MW-2L

## Lab Sample ID: 400-160930-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.6		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	970		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24852 MW-2L DUP

## Lab Sample ID: 400-160930-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.4		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	970		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24853 MW-3L

## Lab Sample ID: 400-160930-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.63		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

# Detection Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

## Client Sample ID: AY24853 MW-3L (Continued)

Lab Sample ID: 400-160930-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2700		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

## Client Sample ID: AY24854 MW-1L

Lab Sample ID: 400-160930-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.7	J	2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.18		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1400		300	84	mg/L	60		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

# Method Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

Method	Method Description	Protocol	Laboratory
SM 4500 Cl- E	Chloride, Total	SM	TAL PEN
SM 4500 F C	Fluoride	SM	TAL PEN
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN

**Protocol References:**

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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# Sample Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160930-1	AY24845 MW-4	Water	10/17/18 09:43	10/22/18 17:20
400-160930-2	AY24846 MW-3	Water	10/17/18 10:45	10/22/18 17:20
400-160930-3	AY24847 EB-1	Water	10/17/18 11:20	10/22/18 17:20
400-160930-4	AY24848 MW-8	Water	10/17/18 12:19	10/22/18 17:20
400-160930-5	AY24849 FB-1	Water	10/17/18 13:15	10/22/18 17:20
400-160930-6	AY24850 MW-4L	Water	10/17/18 14:18	10/22/18 17:20
400-160930-7	AY24851 MW-2L	Water	10/17/18 15:39	10/22/18 17:20
400-160930-8	AY24852 MW-2L DUP	Water	10/17/18 15:39	10/22/18 17:20
400-160930-9	AY24853 MW-3L	Water	10/17/18 14:53	10/22/18 17:20
400-160930-10	AY24854 MW-1L	Water	10/17/18 16:05	10/22/18 17:20



# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24845 MW-4**

**Lab Sample ID: 400-160930-1**

Date Collected: 10/17/18 09:43

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85		10	7.0	mg/L			10/30/18 14:31	5
Fluoride	0.44		0.10	0.032	mg/L			10/29/18 09:05	1
Sulfate	520		100	28	mg/L			10/31/18 09:06	20

**Client Sample ID: AY24846 MW-3**

**Lab Sample ID: 400-160930-2**

Date Collected: 10/17/18 10:45

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		20	14	mg/L			10/30/18 14:31	10
Fluoride	0.78		0.10	0.032	mg/L			10/29/18 09:15	1
Sulfate	2800		500	140	mg/L			10/31/18 10:14	100

**Client Sample ID: AY24847 EB-1**

**Lab Sample ID: 400-160930-3**

Date Collected: 10/17/18 11:20

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			10/30/18 14:08	1
Fluoride	<0.032		0.10	0.032	mg/L			10/29/18 09:21	1
Sulfate	<1.4		5.0	1.4	mg/L			10/31/18 08:42	1

**Client Sample ID: AY24848 MW-8**

**Lab Sample ID: 400-160930-4**

Date Collected: 10/17/18 12:19

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		20	14	mg/L			10/30/18 14:32	10
Fluoride	0.16		0.10	0.032	mg/L			10/29/18 09:24	1
Sulfate	1600		300	84	mg/L			10/31/18 09:43	60

**Client Sample ID: AY24849 FB-1**

**Lab Sample ID: 400-160930-5**

Date Collected: 10/17/18 13:15

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			10/30/18 14:08	1
Fluoride	<0.032		0.10	0.032	mg/L			10/29/18 09:28	1
Sulfate	<1.4		5.0	1.4	mg/L			10/31/18 08:42	1

# Client Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24850 MW-4L**

**Lab Sample ID: 400-160930-6**

Date Collected: 10/17/18 14:18

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.5	J	2.0	1.4	mg/L			10/31/18 14:11	1
Fluoride	0.39		0.10	0.032	mg/L			10/29/18 09:30	1
Sulfate	2600		500	140	mg/L			10/31/18 10:14	100

**Client Sample ID: AY24851 MW-2L**

**Lab Sample ID: 400-160930-7**

Date Collected: 10/17/18 15:39

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.6		2.0	1.4	mg/L			10/31/18 14:13	1
Fluoride	0.16		0.10	0.032	mg/L			10/29/18 09:33	1
Sulfate	970		150	42	mg/L			10/31/18 09:10	30

**Client Sample ID: AY24852 MW-2L DUP**

**Lab Sample ID: 400-160930-8**

Date Collected: 10/17/18 15:39

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.4		2.0	1.4	mg/L			10/31/18 14:13	1
Fluoride	0.16		0.10	0.032	mg/L			10/29/18 09:36	1
Sulfate	970		150	42	mg/L			10/31/18 09:10	30

**Client Sample ID: AY24853 MW-3L**

**Lab Sample ID: 400-160930-9**

Date Collected: 10/17/18 14:53

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			10/31/18 14:13	1
Fluoride	0.63		0.10	0.032	mg/L			10/29/18 09:40	1
Sulfate	2700		500	140	mg/L			10/31/18 10:14	100

**Client Sample ID: AY24854 MW-1L**

**Lab Sample ID: 400-160930-10**

Date Collected: 10/17/18 16:05

Matrix: Water

Date Received: 10/22/18 17:20

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.7	J	2.0	1.4	mg/L			10/31/18 14:13	1
Fluoride	0.18		0.10	0.032	mg/L			10/29/18 09:43	1
Sulfate	1400		300	84	mg/L			10/31/18 09:45	60

# Definitions/Glossary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24845 MW-4**  
**Date Collected: 10/17/18 09:43**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		5	417638	10/30/18 14:31	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:05	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	417786	10/31/18 09:06	RRC	TAL PEN

**Client Sample ID: AY24846 MW-3**  
**Date Collected: 10/17/18 10:45**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		10	417638	10/30/18 14:31	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:15	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	417786	10/31/18 10:14	RRC	TAL PEN

**Client Sample ID: AY24847 EB-1**  
**Date Collected: 10/17/18 11:20**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417638	10/30/18 14:08	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:21	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417786	10/31/18 08:42	RRC	TAL PEN

**Client Sample ID: AY24848 MW-8**  
**Date Collected: 10/17/18 12:19**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		10	417638	10/30/18 14:32	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	417786	10/31/18 09:43	RRC	TAL PEN

**Client Sample ID: AY24849 FB-1**  
**Date Collected: 10/17/18 13:15**  
**Date Received: 10/22/18 17:20**

**Lab Sample ID: 400-160930-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417638	10/30/18 14:08	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:28	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417786	10/31/18 08:42	RRC	TAL PEN

# Lab Chronicle

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

**Client Sample ID: AY24850 MW-4L**

**Lab Sample ID: 400-160930-6**

**Date Collected: 10/17/18 14:18**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417838	10/31/18 14:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:30	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	417786	10/31/18 10:14	RRC	TAL PEN

**Client Sample ID: AY24851 MW-2L**

**Lab Sample ID: 400-160930-7**

**Date Collected: 10/17/18 15:39**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417838	10/31/18 14:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:33	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	417786	10/31/18 09:10	RRC	TAL PEN

**Client Sample ID: AY24852 MW-2L DUP**

**Lab Sample ID: 400-160930-8**

**Date Collected: 10/17/18 15:39**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417838	10/31/18 14:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:36	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	417786	10/31/18 09:10	RRC	TAL PEN

**Client Sample ID: AY24853 MW-3L**

**Lab Sample ID: 400-160930-9**

**Date Collected: 10/17/18 14:53**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417838	10/31/18 14:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:40	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	417786	10/31/18 10:14	RRC	TAL PEN

**Client Sample ID: AY24854 MW-1L**

**Lab Sample ID: 400-160930-10**

**Date Collected: 10/17/18 16:05**

**Matrix: Water**

**Date Received: 10/22/18 17:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	417838	10/31/18 14:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:43	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	417786	10/31/18 09:45	RRC	TAL PEN

## Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

TestAmerica Pensacola

# QC Association Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

## General Chemistry

### Analysis Batch: 417361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-1	AY24845 MW-4	Total/NA	Water	SM 4500 F C	
400-160930-2	AY24846 MW-3	Total/NA	Water	SM 4500 F C	
400-160930-3	AY24847 EB-1	Total/NA	Water	SM 4500 F C	
400-160930-4	AY24848 MW-8	Total/NA	Water	SM 4500 F C	
400-160930-5	AY24849 FB-1	Total/NA	Water	SM 4500 F C	
400-160930-6	AY24850 MW-4L	Total/NA	Water	SM 4500 F C	
400-160930-7	AY24851 MW-2L	Total/NA	Water	SM 4500 F C	
400-160930-8	AY24852 MW-2L DUP	Total/NA	Water	SM 4500 F C	
400-160930-9	AY24853 MW-3L	Total/NA	Water	SM 4500 F C	
400-160930-10	AY24854 MW-1L	Total/NA	Water	SM 4500 F C	
MB 400-417361/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-417361/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-160850-A-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-160850-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-160930-2 DU	AY24846 MW-3	Total/NA	Water	SM 4500 F C	

### Analysis Batch: 417638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-1	AY24845 MW-4	Total/NA	Water	SM 4500 CI- E	
400-160930-2	AY24846 MW-3	Total/NA	Water	SM 4500 CI- E	
400-160930-3	AY24847 EB-1	Total/NA	Water	SM 4500 CI- E	
400-160930-4	AY24848 MW-8	Total/NA	Water	SM 4500 CI- E	
400-160930-5	AY24849 FB-1	Total/NA	Water	SM 4500 CI- E	
MB 400-417638/6	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 400-417638/7	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
MRL 400-417638/3	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
400-160465-C-1 MS	Matrix Spike	Total/NA	Water	SM 4500 CI- E	
400-160465-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CI- E	

### Analysis Batch: 417786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-1	AY24845 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-160930-2	AY24846 MW-3	Total/NA	Water	SM 4500 SO4 E	
400-160930-3	AY24847 EB-1	Total/NA	Water	SM 4500 SO4 E	
400-160930-4	AY24848 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-160930-5	AY24849 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-160930-6	AY24850 MW-4L	Total/NA	Water	SM 4500 SO4 E	
400-160930-7	AY24851 MW-2L	Total/NA	Water	SM 4500 SO4 E	
400-160930-8	AY24852 MW-2L DUP	Total/NA	Water	SM 4500 SO4 E	
400-160930-9	AY24853 MW-3L	Total/NA	Water	SM 4500 SO4 E	
400-160930-10	AY24854 MW-1L	Total/NA	Water	SM 4500 SO4 E	
MB 400-417786/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-417786/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-417786/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-160930-1 MS	AY24845 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-160930-1 MSD	AY24845 MW-4	Total/NA	Water	SM 4500 SO4 E	

### Analysis Batch: 417838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-6	AY24850 MW-4L	Total/NA	Water	SM 4500 CI- E	
400-160930-7	AY24851 MW-2L	Total/NA	Water	SM 4500 CI- E	

TestAmerica Pensacola

# QC Association Summary

Client: Alabama Power General Test Laboratory  
Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
SDG: Gorgas Gypsum 1173

## General Chemistry (Continued)

### Analysis Batch: 417838 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160930-8	AY24852 MW-2L DUP	Total/NA	Water	SM 4500 Cl- E	
400-160930-9	AY24853 MW-3L	Total/NA	Water	SM 4500 Cl- E	
400-160930-10	AY24854 MW-1L	Total/NA	Water	SM 4500 Cl- E	
MB 400-417838/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-417838/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-417838/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-160912-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-160912-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	



# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

## Method: SM 4500 Cl- E - Chloride, Total

**Lab Sample ID: MB 400-417638/6**  
**Matrix: Water**  
**Analysis Batch: 417638**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			10/30/18 13:58	1

**Lab Sample ID: LCS 400-417638/7**  
**Matrix: Water**  
**Analysis Batch: 417638**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.5		mg/L		105	90 - 110

**Lab Sample ID: MRL 400-417638/3**  
**Matrix: Water**  
**Analysis Batch: 417638**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.82	J	mg/L		91	50 - 150

**Lab Sample ID: 400-160465-C-1 MS**  
**Matrix: Water**  
**Analysis Batch: 417638**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.3		10.0	14.8		mg/L		115	73 - 120

**Lab Sample ID: 400-160465-C-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 417638**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	3.3		10.0	14.5		mg/L		112	73 - 120	2	8

**Lab Sample ID: MB 400-417838/6**  
**Matrix: Water**  
**Analysis Batch: 417838**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			10/31/18 14:11	1

**Lab Sample ID: LCS 400-417838/7**  
**Matrix: Water**  
**Analysis Batch: 417838**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.7		mg/L		106	90 - 110

**Lab Sample ID: MRL 400-417838/3**  
**Matrix: Water**  
**Analysis Batch: 417838**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.34	J	mg/L		67	50 - 150

TestAmerica Pensacola

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

**Lab Sample ID: 400-160912-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 417838**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	240		10.0	241	4	mg/L		-21	73 - 120

**Lab Sample ID: 400-160912-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 417838**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	240		10.0	240	4	mg/L		-28	73 - 120	0	8

## Method: SM 4500 F C - Fluoride

**Lab Sample ID: MB 400-417361/3**  
**Matrix: Water**  
**Analysis Batch: 417361**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.032		0.10	0.032	mg/L			10/29/18 08:24	1

**Lab Sample ID: LCS 400-417361/4**  
**Matrix: Water**  
**Analysis Batch: 417361**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.26		mg/L		107	90 - 110

**Lab Sample ID: 400-160850-A-5 MS**  
**Matrix: Water**  
**Analysis Batch: 417361**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.032		1.00	1.14		mg/L		114	75 - 125

**Lab Sample ID: 400-160850-A-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 417361**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.032		1.00	1.14		mg/L		114	75 - 125	0	4

**Lab Sample ID: 400-160930-2 DU**  
**Matrix: Water**  
**Analysis Batch: 417361**

**Client Sample ID: AY24846 MW-3**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.78		0.770		mg/L		1	4

# QC Sample Results

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

## Method: SM 4500 SO4 E - Sulfate, Total

**Lab Sample ID: MB 400-417786/6**  
**Matrix: Water**  
**Analysis Batch: 417786**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<1.4		5.0	1.4	mg/L			10/31/18 08:36	1

**Lab Sample ID: LCS 400-417786/7**  
**Matrix: Water**  
**Analysis Batch: 417786**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.8		mg/L		98	90 - 110

**Lab Sample ID: MRL 400-417786/3**  
**Matrix: Water**  
**Analysis Batch: 417786**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.11	J	mg/L		82	50 - 150

**Lab Sample ID: 400-160930-1 MS**  
**Matrix: Water**  
**Analysis Batch: 417786**

**Client Sample ID: AY24845 MW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	520		10.0	492	4	mg/L		-258	77 - 128

**Lab Sample ID: 400-160930-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 417786**

**Client Sample ID: AY24845 MW-4**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	520		10.0	483	4	mg/L		-356	77 - 128	2	5







## Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-160930-1  
SDG Number: Gorgas Gypsum 1173

**Login Number: 160930**

**List Number: 1**

**Creator: Johnson, Jeremy N**

**List Source: TestAmerica Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.5°C 24.4°C 25.4°C IR8 Rads, 1.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Accreditation/Certification Summary

Client: Alabama Power General Test Laboratory  
 Project/Site: CCR Plant Gorgas

TestAmerica Job ID: 400-160930-1  
 SDG: Gorgas Gypsum 1173

## Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	2229.1	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	92.45	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	0.76	mg/L	DO
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	153.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	5.18	pH	pH
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	18.66	C	Temperature
APCO-GS-GYPLF-MW-1	2/13/2018 13:02	0.21	NTU	Turbidity
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	2229.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	92.55	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	0.77	mg/L	DO
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	145.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	5.17	pH	pH
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	18.7	C	Temperature
APCO-GS-GYPLF-MW-1	2/13/2018 13:07	0.18	NTU	Turbidity
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	2233.8	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	92.58	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	0.74	mg/L	DO
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	140.4	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	5.18	pH	pH
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	18.68	C	Temperature
APCO-GS-GYPLF-MW-1	2/13/2018 13:12	0.22	NTU	Turbidity
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	2235.9	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	92.61	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	0.7	mg/L	DO
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	137.1	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	5.18	pH	pH
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	18.74	C	Temperature
APCO-GS-GYPLF-MW-1	2/13/2018 13:17	0.19	NTU	Turbidity



**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	2142.7	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	83.37	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	0.14	mg/L	DO
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	45.1	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	6.2	pH	pH
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	18.17	C	Temperature
APCO-GS-GYPLF-MW-2	2/13/2018 12:05	5.55	NTU	Turbidity
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	2158.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	83.37	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	0.12	mg/L	DO
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	51.1	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	6.21	pH	pH
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	18.19	C	Temperature
APCO-GS-GYPLF-MW-2	2/13/2018 12:10	3.18	NTU	Turbidity
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	2159.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	83.37	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	0.12	mg/L	DO
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	51.3	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	6.2	pH	pH
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	18.17	C	Temperature
APCO-GS-GYPLF-MW-2	2/13/2018 12:15	1.46	NTU	Turbidity
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	2168.8	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	83.37	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	0.12	mg/L	DO
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	51.5	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	6.21	pH	pH
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	18.26	C	Temperature
APCO-GS-GYPLF-MW-2	2/13/2018 12:20	1.12	NTU	Turbidity

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	4564.3	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	107.17	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	6.14	mg/L	DO
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	205.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	5.25	pH	pH
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	17.1	C	Temperature
APCO-GS-GYPLF-MW-3	2/13/2018 10:57	15.9	NTU	Turbidity
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	4600.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	107.21	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	6.17	mg/L	DO
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	159.8	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	5.59	pH	pH
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	17.1	C	Temperature
APCO-GS-GYPLF-MW-3	2/13/2018 11:02	9.63	NTU	Turbidity
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	4613.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	107.22	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	6.17	mg/L	DO
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	151.1	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	5.66	pH	pH
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	17.32	C	Temperature
APCO-GS-GYPLF-MW-3	2/13/2018 11:07	5.42	NTU	Turbidity
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	4605.7	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	107.23	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	6.16	mg/L	DO
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	147.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	5.67	pH	pH
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	17.37	C	Temperature
APCO-GS-GYPLF-MW-3	2/13/2018 11:12	3.57	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	3787.3	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	115.94	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	0.9	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	103.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	6.16	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	19.32	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 9:30	1.28	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	3792.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	115.94	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	0.74	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	99.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	6.16	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	19.38	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 9:35	0.79	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	3776.3	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	115.94	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	0.81	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	97.3	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	6.16	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	19.41	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 9:40	0.82	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	3718.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	115.94	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	1.42	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	101.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	6.17	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	19.44	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 9:45	1.09	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	3619.4	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	115.94	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	2.55	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	108.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	6.19	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	19.47	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 9:50	2.22	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	3568.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	115.95	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	3.31	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	112.2	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	6.21	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	19.46	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 9:55	1.73	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	3552.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	115.96	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	3.59	mg/L	DO

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<b>Well ID</b>	<b>Reading Time</b>	<b>Value</b>	<b>Unit</b>	<b>Description</b>
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	113.4	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	6.21	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	19.5	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 10:00	1.15	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	3541.1	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	115.97	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	3.73	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	113.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	6.22	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	19.55	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 10:05	0.89	NTU	Turbidity
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	3535.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	115.97	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	3.78	mg/L	DO
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	113.5	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	6.22	pH	pH
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	19.54	C	Temperature
APCO-GS-GYPLF-MW-4	2/13/2018 10:10	0.66	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-3	2/13/2018 11:41	4859.3	uS/cm	Conductivity
GS-GSA-MW-3	2/13/2018 11:41	109.92	ft	Depth to Water Detail
GS-GSA-MW-3	2/13/2018 11:41	0.38	mg/L	DO
GS-GSA-MW-3	2/13/2018 11:41	-16.9	mv	Oxidation Reduction Potention
GS-GSA-MW-3	2/13/2018 11:41	5.71	pH	pH
GS-GSA-MW-3	2/13/2018 11:41	19.6	C	Temperature
GS-GSA-MW-3	2/13/2018 11:41	1.34	NTU	Turbidity
GS-GSA-MW-3	2/13/2018 11:46	4854.7	uS/cm	Conductivity
GS-GSA-MW-3	2/13/2018 11:46	109.92	ft	Depth to Water Detail
GS-GSA-MW-3	2/13/2018 11:46	0.16	mg/L	DO
GS-GSA-MW-3	2/13/2018 11:46	-26.4	mv	Oxidation Reduction Potention
GS-GSA-MW-3	2/13/2018 11:46	5.85	pH	pH
GS-GSA-MW-3	2/13/2018 11:46	19.51	C	Temperature
GS-GSA-MW-3	2/13/2018 11:46	0.8	NTU	Turbidity
GS-GSA-MW-3	2/13/2018 11:51	4848.1	uS/cm	Conductivity
GS-GSA-MW-3	2/13/2018 11:51	109.92	ft	Depth to Water Detail
GS-GSA-MW-3	2/13/2018 11:51	0.12	mg/L	DO
GS-GSA-MW-3	2/13/2018 11:51	-21.4	mv	Oxidation Reduction Potention
GS-GSA-MW-3	2/13/2018 11:51	5.88	pH	pH
GS-GSA-MW-3	2/13/2018 11:51	19.48	C	Temperature
GS-GSA-MW-3	2/13/2018 11:51	0.59	NTU	Turbidity
GS-GSA-MW-3	2/13/2018 11:56	4841	uS/cm	Conductivity
GS-GSA-MW-3	2/13/2018 11:56	109.92	ft	Depth to Water Detail
GS-GSA-MW-3	2/13/2018 11:56	0.11	mg/L	DO
GS-GSA-MW-3	2/13/2018 11:56	-16.5	mv	Oxidation Reduction Potention
GS-GSA-MW-3	2/13/2018 11:56	5.88	pH	pH
GS-GSA-MW-3	2/13/2018 11:56	19.57	C	Temperature
GS-GSA-MW-3	2/13/2018 11:56	0.76	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-4	2/13/2018 10:44	1305.4	uS/cm	Conductivity
GS-GSA-MW-4	2/13/2018 10:44	89.04	ft	Depth to Water Detail
GS-GSA-MW-4	2/13/2018 10:44	0.19	mg/L	DO
GS-GSA-MW-4	2/13/2018 10:44	255.1	mv	Oxidation Reduction Potention
GS-GSA-MW-4	2/13/2018 10:44	3.72	pH	pH
GS-GSA-MW-4	2/13/2018 10:44	19.59	C	Temperature
GS-GSA-MW-4	2/13/2018 10:44	0.91	NTU	Turbidity
GS-GSA-MW-4	2/13/2018 10:49	1303.2	uS/cm	Conductivity
GS-GSA-MW-4	2/13/2018 10:49	89.04	ft	Depth to Water Detail
GS-GSA-MW-4	2/13/2018 10:49	0.18	mg/L	DO
GS-GSA-MW-4	2/13/2018 10:49	254.1	mv	Oxidation Reduction Potention
GS-GSA-MW-4	2/13/2018 10:49	3.72	pH	pH
GS-GSA-MW-4	2/13/2018 10:49	19.59	C	Temperature
GS-GSA-MW-4	2/13/2018 10:49	0.99	NTU	Turbidity
GS-GSA-MW-4	2/13/2018 10:54	1304.9	uS/cm	Conductivity
GS-GSA-MW-4	2/13/2018 10:54	89.04	ft	Depth to Water Detail
GS-GSA-MW-4	2/13/2018 10:54	0.18	mg/L	DO
GS-GSA-MW-4	2/13/2018 10:54	254.2	mv	Oxidation Reduction Potention
GS-GSA-MW-4	2/13/2018 10:54	3.72	pH	pH
GS-GSA-MW-4	2/13/2018 10:54	19.6	C	Temperature
GS-GSA-MW-4	2/13/2018 10:54	0.72	NTU	Turbidity
GS-GSA-MW-4	2/13/2018 10:59	1304.9	uS/cm	Conductivity
GS-GSA-MW-4	2/13/2018 10:59	89.04	ft	Depth to Water Detail
GS-GSA-MW-4	2/13/2018 10:59	0.17	mg/L	DO
GS-GSA-MW-4	2/13/2018 10:59	252.3	mv	Oxidation Reduction Potention
GS-GSA-MW-4	2/13/2018 10:59	3.73	pH	pH
GS-GSA-MW-4	2/13/2018 10:59	19.59	C	Temperature
GS-GSA-MW-4	2/13/2018 10:59	0.51	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-8	2/13/2018 12:43	3732	uS/cm	Conductivity
GS-GSA-MW-8	2/13/2018 12:43	84.78	ft	Depth to Water Detail
GS-GSA-MW-8	2/13/2018 12:43	0.69	mg/L	DO
GS-GSA-MW-8	2/13/2018 12:43	-54	mv	Oxidation Reduction Potention
GS-GSA-MW-8	2/13/2018 12:43	6.69	pH	pH
GS-GSA-MW-8	2/13/2018 12:43	18.57	C	Temperature
GS-GSA-MW-8	2/13/2018 12:43	3.37	NTU	Turbidity
GS-GSA-MW-8	2/13/2018 12:48	3832.5	uS/cm	Conductivity
GS-GSA-MW-8	2/13/2018 12:48	84.83	ft	Depth to Water Detail
GS-GSA-MW-8	2/13/2018 12:48	0.28	mg/L	DO
GS-GSA-MW-8	2/13/2018 12:48	-49.7	mv	Oxidation Reduction Potention
GS-GSA-MW-8	2/13/2018 12:48	6.78	pH	pH
GS-GSA-MW-8	2/13/2018 12:48	18.84	C	Temperature
GS-GSA-MW-8	2/13/2018 12:48	4.86	NTU	Turbidity
GS-GSA-MW-8	2/13/2018 12:53	3843	uS/cm	Conductivity
GS-GSA-MW-8	2/13/2018 12:53	84.87	ft	Depth to Water Detail
GS-GSA-MW-8	2/13/2018 12:53	0.23	mg/L	DO
GS-GSA-MW-8	2/13/2018 12:53	-48.2	mv	Oxidation Reduction Potention
GS-GSA-MW-8	2/13/2018 12:53	6.83	pH	pH
GS-GSA-MW-8	2/13/2018 12:53	18.84	C	Temperature
GS-GSA-MW-8	2/13/2018 12:53	4.41	NTU	Turbidity
GS-GSA-MW-8	2/13/2018 12:58	3817.5	uS/cm	Conductivity
GS-GSA-MW-8	2/13/2018 12:58	84.89	ft	Depth to Water Detail
GS-GSA-MW-8	2/13/2018 12:58	0.2	mg/L	DO
GS-GSA-MW-8	2/13/2018 12:58	-48.6	mv	Oxidation Reduction Potention
GS-GSA-MW-8	2/13/2018 12:58	6.85	pH	pH
GS-GSA-MW-8	2/13/2018 12:58	18.97	C	Temperature
GS-GSA-MW-8	2/13/2018 12:58	3.33	NTU	Turbidity

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<b>Well ID</b>	<b>Reading Time</b>	<b>Value</b>	<b>Unit</b>	<b>Description</b>
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	2433.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	92.03	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	0.81	mg/L	DO
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	153.3	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	5.17	pH	pH
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	21.24	C	Temperature
APCO-GS-GYPLF-MW-1	6/12/2018 14:23	0.15	NTU	Turbidity
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	2424.4	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	92.12	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	0.59	mg/L	DO
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	146.4	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	5.17	pH	pH
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	21.09	C	Temperature
APCO-GS-GYPLF-MW-1	6/12/2018 14:28	0.09	NTU	Turbidity
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	2439	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	92.19	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	0.52	mg/L	DO
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	142.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	5.16	pH	pH
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	21.24	C	Temperature
APCO-GS-GYPLF-MW-1	6/12/2018 14:33	0.08	NTU	Turbidity
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	2436.8	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	92.19	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	0.48	mg/L	DO
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	140	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	5.15	pH	pH
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	21.21	C	Temperature
APCO-GS-GYPLF-MW-1	6/12/2018 14:38	0.11	NTU	Turbidity



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<b>Well ID</b>	<b>Reading Time</b>	<b>Value</b>	<b>Unit</b>	<b>Description</b>
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	1783.4	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	85.18	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	0.25	mg/L	DO
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	16.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	5.96	pH	pH
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	19.9	C	Temperature
APCO-GS-GYPLF-MW-2	6/12/2018 13:14	13.1	NTU	Turbidity
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	1804.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	85.18	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	0.23	mg/L	DO
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	21.8	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	5.96	pH	pH
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	19.94	C	Temperature
APCO-GS-GYPLF-MW-2	6/12/2018 13:19	6.06	NTU	Turbidity
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	1802.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	85.18	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	0.2	mg/L	DO
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	24	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	5.96	pH	pH
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	19.95	C	Temperature
APCO-GS-GYPLF-MW-2	6/12/2018 13:24	4.51	NTU	Turbidity
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	1801.7	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	85.18	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	0.18	mg/L	DO
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	25.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	5.95	pH	pH
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	19.9	C	Temperature
APCO-GS-GYPLF-MW-2	6/12/2018 13:29	2.23	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	3241.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	110.66	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	7.46	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	111.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	6	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	23.25	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:26	0.18	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	3660.7	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	110.8	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	2.49	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	98.1	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	5.41	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	23.38	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:31	14.5	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	3600.4	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	110.87	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	1.29	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	150.2	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	4.86	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	23.21	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:36	13.9	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	3521.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	111	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	0.96	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	172.4	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	4.75	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	23.3	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:41	11.1	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	3466.7	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	111.1	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	0.91	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	174.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	4.77	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	23.25	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:46	8.36	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	3475.1	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	111.16	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	0.88	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	173.8	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	4.77	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	23.43	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:51	6.23	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	3475.3	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	111.2	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	0.85	mg/L	DO

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

<b>Well ID</b>	<b>Reading Time</b>	<b>Value</b>	<b>Unit</b>	<b>Description</b>
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	170.4	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	4.78	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	23.43	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 11:57	6.16	NTU	Turbidity
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	3482.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	111.27	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	0.83	mg/L	DO
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	166.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	4.79	pH	pH
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	23.45	C	Temperature
APCO-GS-GYPLF-MW-3	6/12/2018 12:02	4.57	NTU	Turbidity

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Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	3791.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	116.64	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	1.84	mg/L	DO
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	102.5	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	6.17	pH	pH
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	21.09	C	Temperature
APCO-GS-GYPLF-MW-4	6/12/2018 10:27	0.22	NTU	Turbidity
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	3792.3	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	116.65	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	1.79	mg/L	DO
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	99.3	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	6.17	pH	pH
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	20.94	C	Temperature
APCO-GS-GYPLF-MW-4	6/12/2018 10:32	0.29	NTU	Turbidity
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	3795.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	116.65	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	1.77	mg/L	DO
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	96.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	6.17	pH	pH
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	20.88	C	Temperature
APCO-GS-GYPLF-MW-4	6/12/2018 10:37	0.19	NTU	Turbidity
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	3796.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	116.65	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	1.75	mg/L	DO
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	93.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	6.16	pH	pH
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	20.84	C	Temperature
APCO-GS-GYPLF-MW-4	6/12/2018 10:42	0.18	NTU	Turbidity

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<b>Well ID</b>	<b>Reading Time</b>	<b>Value</b>	<b>Unit</b>	<b>Description</b>
GS-GSA-MW-3	6/11/2018 12:10	4799.6	uS/cm	Conductivity
GS-GSA-MW-3	6/11/2018 12:10	106.4	ft	Depth to Water Detail
GS-GSA-MW-3	6/11/2018 12:10	1.16	mg/L	DO
GS-GSA-MW-3	6/11/2018 12:10	-31.7	mv	Oxidation Reduction Potention
GS-GSA-MW-3	6/11/2018 12:10	5.75	pH	pH
GS-GSA-MW-3	6/11/2018 12:10	22.58	C	Temperature
GS-GSA-MW-3	6/11/2018 12:10	1.17	NTU	Turbidity
GS-GSA-MW-3	6/11/2018 12:15	4798.6	uS/cm	Conductivity
GS-GSA-MW-3	6/11/2018 12:15	106.4	ft	Depth to Water Detail
GS-GSA-MW-3	6/11/2018 12:15	0.68	mg/L	DO
GS-GSA-MW-3	6/11/2018 12:15	-51.3	mv	Oxidation Reduction Potention
GS-GSA-MW-3	6/11/2018 12:15	5.86	pH	pH
GS-GSA-MW-3	6/11/2018 12:15	22.45	C	Temperature
GS-GSA-MW-3	6/11/2018 12:15	0.54	NTU	Turbidity
GS-GSA-MW-3	6/11/2018 12:20	4781.2	uS/cm	Conductivity
GS-GSA-MW-3	6/11/2018 12:20	106.4	ft	Depth to Water Detail
GS-GSA-MW-3	6/11/2018 12:20	0.5	mg/L	DO
GS-GSA-MW-3	6/11/2018 12:20	-53.9	mv	Oxidation Reduction Potention
GS-GSA-MW-3	6/11/2018 12:20	5.9	pH	pH
GS-GSA-MW-3	6/11/2018 12:20	22.13	C	Temperature
GS-GSA-MW-3	6/11/2018 12:20	0.54	NTU	Turbidity
GS-GSA-MW-3	6/11/2018 12:25	4783.7	uS/cm	Conductivity
GS-GSA-MW-3	6/11/2018 12:25	106.4	ft	Depth to Water Detail
GS-GSA-MW-3	6/11/2018 12:25	0.38	mg/L	DO
GS-GSA-MW-3	6/11/2018 12:25	-53.8	mv	Oxidation Reduction Potention
GS-GSA-MW-3	6/11/2018 12:25	5.91	pH	pH
GS-GSA-MW-3	6/11/2018 12:25	22.01	C	Temperature
GS-GSA-MW-3	6/11/2018 12:25	0.44	NTU	Turbidity

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<b>Well ID</b>	<b>Reading Time</b>	<b>Value</b>	<b>Unit</b>	<b>Description</b>
GS-GSA-MW-4	6/11/2018 10:53	1242.7	uS/cm	Conductivity
GS-GSA-MW-4	6/11/2018 10:53	90.97	ft	Depth to Water Detail
GS-GSA-MW-4	6/11/2018 10:53	0.28	mg/L	DO
GS-GSA-MW-4	6/11/2018 10:53	270.2	mv	Oxidation Reduction Potention
GS-GSA-MW-4	6/11/2018 10:53	3.8	pH	pH
GS-GSA-MW-4	6/11/2018 10:53	21.85	C	Temperature
GS-GSA-MW-4	6/11/2018 10:53	0.26	NTU	Turbidity
GS-GSA-MW-4	6/11/2018 10:58	1241.6	uS/cm	Conductivity
GS-GSA-MW-4	6/11/2018 10:58	90.97	ft	Depth to Water Detail
GS-GSA-MW-4	6/11/2018 10:58	0.24	mg/L	DO
GS-GSA-MW-4	6/11/2018 10:58	262.9	mv	Oxidation Reduction Potention
GS-GSA-MW-4	6/11/2018 10:58	3.8	pH	pH
GS-GSA-MW-4	6/11/2018 10:58	21.82	C	Temperature
GS-GSA-MW-4	6/11/2018 10:58	0.22	NTU	Turbidity
GS-GSA-MW-4	6/11/2018 11:03	1240.7	uS/cm	Conductivity
GS-GSA-MW-4	6/11/2018 11:03	90.97	ft	Depth to Water Detail
GS-GSA-MW-4	6/11/2018 11:03	0.23	mg/L	DO
GS-GSA-MW-4	6/11/2018 11:03	258.1	mv	Oxidation Reduction Potention
GS-GSA-MW-4	6/11/2018 11:03	3.8	pH	pH
GS-GSA-MW-4	6/11/2018 11:03	21.91	C	Temperature
GS-GSA-MW-4	6/11/2018 11:03	0.24	NTU	Turbidity
GS-GSA-MW-4	6/11/2018 11:08	1241.8	uS/cm	Conductivity
GS-GSA-MW-4	6/11/2018 11:08	90.97	ft	Depth to Water Detail
GS-GSA-MW-4	6/11/2018 11:08	0.22	mg/L	DO
GS-GSA-MW-4	6/11/2018 11:08	252.7	mv	Oxidation Reduction Potention
GS-GSA-MW-4	6/11/2018 11:08	3.8	pH	pH
GS-GSA-MW-4	6/11/2018 11:08	21.64	C	Temperature
GS-GSA-MW-4	6/11/2018 11:08	0.23	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-8	6/12/2018 8:46	3974.9	uS/cm	Conductivity
GS-GSA-MW-8	6/12/2018 8:46	80.46	ft	Depth to Water Detail
GS-GSA-MW-8	6/12/2018 8:46	2.3	mg/L	DO
GS-GSA-MW-8	6/12/2018 8:46	-109.4	mv	Oxidation Reduction Potention
GS-GSA-MW-8	6/12/2018 8:46	6.65	pH	pH
GS-GSA-MW-8	6/12/2018 8:46	22.98	C	Temperature
GS-GSA-MW-8	6/12/2018 8:46	1.13	NTU	Turbidity
GS-GSA-MW-8	6/12/2018 8:51	3929.6	uS/cm	Conductivity
GS-GSA-MW-8	6/12/2018 8:51	80.58	ft	Depth to Water Detail
GS-GSA-MW-8	6/12/2018 8:51	0.75	mg/L	DO
GS-GSA-MW-8	6/12/2018 8:51	-109.5	mv	Oxidation Reduction Potention
GS-GSA-MW-8	6/12/2018 8:51	6.77	pH	pH
GS-GSA-MW-8	6/12/2018 8:51	22.22	C	Temperature
GS-GSA-MW-8	6/12/2018 8:51	0.91	NTU	Turbidity
GS-GSA-MW-8	6/12/2018 8:56	3896	uS/cm	Conductivity
GS-GSA-MW-8	6/12/2018 8:56	80.64	ft	Depth to Water Detail
GS-GSA-MW-8	6/12/2018 8:56	0.61	mg/L	DO
GS-GSA-MW-8	6/12/2018 8:56	-103.9	mv	Oxidation Reduction Potention
GS-GSA-MW-8	6/12/2018 8:56	6.8	pH	pH
GS-GSA-MW-8	6/12/2018 8:56	22.28	C	Temperature
GS-GSA-MW-8	6/12/2018 8:56	0.81	NTU	Turbidity
GS-GSA-MW-8	6/12/2018 9:01	3878.1	uS/cm	Conductivity
GS-GSA-MW-8	6/12/2018 9:01	80.65	ft	Depth to Water Detail
GS-GSA-MW-8	6/12/2018 9:01	0.56	mg/L	DO
GS-GSA-MW-8	6/12/2018 9:01	-98	mv	Oxidation Reduction Potention
GS-GSA-MW-8	6/12/2018 9:01	6.82	pH	pH
GS-GSA-MW-8	6/12/2018 9:01	22.04	C	Temperature
GS-GSA-MW-8	6/12/2018 9:01	0.8	NTU	Turbidity
GS-GSA-MW-8	6/12/2018 9:06	3892	uS/cm	Conductivity
GS-GSA-MW-8	6/12/2018 9:06	80.67	ft	Depth to Water Detail
GS-GSA-MW-8	6/12/2018 9:06	0.53	mg/L	DO
GS-GSA-MW-8	6/12/2018 9:06	-91.6	mv	Oxidation Reduction Potention
GS-GSA-MW-8	6/12/2018 9:06	6.83	pH	pH
GS-GSA-MW-8	6/12/2018 9:06	22.09	C	Temperature
GS-GSA-MW-8	6/12/2018 9:06	0.92	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	2354.4	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	92.75	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	0.78	mg/L	DO
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	151.3	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	5.14	pH	pH
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	19.89	C	Temperature
APCO-GS-GYPLF-MW-1	10/17/2018 15:42	1.37	NTU	Turbidity
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	2331.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	92.83	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	0.8	mg/L	DO
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	149.5	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	5.12	pH	pH
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	19.68	C	Temperature
APCO-GS-GYPLF-MW-1	10/17/2018 15:47	0.88	NTU	Turbidity
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	2341.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	92.9	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	0.79	mg/L	DO
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	148.4	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	5.13	pH	pH
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	19.6	C	Temperature
APCO-GS-GYPLF-MW-1	10/17/2018 15:52	1.03	NTU	Turbidity
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	2350.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	92.93	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	0.56	mg/L	DO
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	144.2	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	5.12	pH	pH
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	19.58	C	Temperature
APCO-GS-GYPLF-MW-1	10/17/2018 15:57	0.98	NTU	Turbidity
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	2354	uS/cm	Conductivity
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	92.93	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	0.47	mg/L	DO
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	141.5	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	5.12	pH	pH
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	19.55	C	Temperature
APCO-GS-GYPLF-MW-1	10/17/2018 16:03	0.69	NTU	Turbidity



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Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	2105.8	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	85.9	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	0.23	mg/L	DO
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	34.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	5.91	pH	pH
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	19.2	C	Temperature
APCO-GS-GYPLF-MW-2	10/17/2018 15:22	6.52	NTU	Turbidity
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	2111.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	85.9	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	0.2	mg/L	DO
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	37.8	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	5.9	pH	pH
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	19.12	C	Temperature
APCO-GS-GYPLF-MW-2	10/17/2018 15:27	4.34	NTU	Turbidity
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	2118.3	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	85.9	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	0.18	mg/L	DO
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	39.8	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	5.9	pH	pH
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	19.09	C	Temperature
APCO-GS-GYPLF-MW-2	10/17/2018 15:32	2.42	NTU	Turbidity
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	2121	uS/cm	Conductivity
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	85.9	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	0.18	mg/L	DO
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	40.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	5.9	pH	pH
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	19.03	C	Temperature
APCO-GS-GYPLF-MW-2	10/17/2018 15:37	2.09	NTU	Turbidity

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Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	3272.5	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	111.39	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	6.67	mg/L	DO
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	231.8	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	4.98	pH	pH
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	20.97	C	Temperature
APCO-GS-GYPLF-MW-3	10/17/2018 14:26	1.5	NTU	Turbidity
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	4186.9	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	111.55	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	2.02	mg/L	DO
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	129.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	5.11	pH	pH
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	20.84	C	Temperature
APCO-GS-GYPLF-MW-3	10/17/2018 14:31	3.9	NTU	Turbidity
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	4249.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	111.63	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	1.05	mg/L	DO
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	116	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	5.18	pH	pH
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	20.75	C	Temperature
APCO-GS-GYPLF-MW-3	10/17/2018 14:36	4.81	NTU	Turbidity
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	4206.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	111.8	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	0.8	mg/L	DO
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	145.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	4.94	pH	pH
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	20.65	C	Temperature
APCO-GS-GYPLF-MW-3	10/17/2018 14:41	6.85	NTU	Turbidity
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	4154.2	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	111.88	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	0.75	mg/L	DO
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	170.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	4.75	pH	pH
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	20.69	C	Temperature
APCO-GS-GYPLF-MW-3	10/17/2018 14:46	5.22	NTU	Turbidity
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	4259.8	uS/cm	Conductivity
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	111.97	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	0.7	mg/L	DO
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	166.9	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	4.75	pH	pH
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	20.62	C	Temperature
APCO-GS-GYPLF-MW-3	10/17/2018 14:51	4.06	NTU	Turbidity

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	4079	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	118.35	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	1.28	mg/L	DO
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	112.3	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	6.13	pH	pH
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	20.81	C	Temperature
APCO-GS-GYPLF-MW-4	10/17/2018 14:01	0.8	NTU	Turbidity
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	4078.4	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	118.35	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	1.25	mg/L	DO
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	108.5	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	6.12	pH	pH
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	20.88	C	Temperature
APCO-GS-GYPLF-MW-4	10/17/2018 14:06	0.34	NTU	Turbidity
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	4080.1	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	118.36	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	1.22	mg/L	DO
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	106.7	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	6.12	pH	pH
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	20.8	C	Temperature
APCO-GS-GYPLF-MW-4	10/17/2018 14:11	0.36	NTU	Turbidity
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	4081.6	uS/cm	Conductivity
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	118.36	ft	Depth to Water Detail
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	1.2	mg/L	DO
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	105.6	mv	Oxidation Reduction Potention
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	6.12	pH	pH
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	20.87	C	Temperature
APCO-GS-GYPLF-MW-4	10/17/2018 14:16	0.47	NTU	Turbidity

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-3	10/17/2018 10:28	4979.4	uS/cm	Conductivity
GS-GSA-MW-3	10/17/2018 10:28	110.43	ft	Depth to Water Detail
GS-GSA-MW-3	10/17/2018 10:28	0.39	mg/L	DO
GS-GSA-MW-3	10/17/2018 10:28	-7.1	mv	Oxidation Reduction Potention
GS-GSA-MW-3	10/17/2018 10:28	5.72	pH	pH
GS-GSA-MW-3	10/17/2018 10:28	20.39	C	Temperature
GS-GSA-MW-3	10/17/2018 10:28	1.83	NTU	Turbidity
GS-GSA-MW-3	10/17/2018 10:33	4997.6	uS/cm	Conductivity
GS-GSA-MW-3	10/17/2018 10:33	110.43	ft	Depth to Water Detail
GS-GSA-MW-3	10/17/2018 10:33	0.23	mg/L	DO
GS-GSA-MW-3	10/17/2018 10:33	-25.6	mv	Oxidation Reduction Potention
GS-GSA-MW-3	10/17/2018 10:33	5.83	pH	pH
GS-GSA-MW-3	10/17/2018 10:33	20.38	C	Temperature
GS-GSA-MW-3	10/17/2018 10:33	0.83	NTU	Turbidity
GS-GSA-MW-3	10/17/2018 10:38	4991.3	uS/cm	Conductivity
GS-GSA-MW-3	10/17/2018 10:38	110.43	ft	Depth to Water Detail
GS-GSA-MW-3	10/17/2018 10:38	0.2	mg/L	DO
GS-GSA-MW-3	10/17/2018 10:38	-28.1	mv	Oxidation Reduction Potention
GS-GSA-MW-3	10/17/2018 10:38	5.87	pH	pH
GS-GSA-MW-3	10/17/2018 10:38	20.3	C	Temperature
GS-GSA-MW-3	10/17/2018 10:38	0.42	NTU	Turbidity
GS-GSA-MW-3	10/17/2018 10:43	4985.3	uS/cm	Conductivity
GS-GSA-MW-3	10/17/2018 10:43	110.43	ft	Depth to Water Detail
GS-GSA-MW-3	10/17/2018 10:43	0.19	mg/L	DO
GS-GSA-MW-3	10/17/2018 10:43	-27.6	mv	Oxidation Reduction Potention
GS-GSA-MW-3	10/17/2018 10:43	5.88	pH	pH
GS-GSA-MW-3	10/17/2018 10:43	20.31	C	Temperature
GS-GSA-MW-3	10/17/2018 10:43	0.41	NTU	Turbidity

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-4	10/17/2018 9:26	1248.4	uS/cm	Conductivity
GS-GSA-MW-4	10/17/2018 9:26	92.63	ft	Depth to Water Detail
GS-GSA-MW-4	10/17/2018 9:26	0.48	mg/L	DO
GS-GSA-MW-4	10/17/2018 9:26	292.7	mv	Oxidation Reduction Potention
GS-GSA-MW-4	10/17/2018 9:26	3.81	pH	pH
GS-GSA-MW-4	10/17/2018 9:26	20.26	C	Temperature
GS-GSA-MW-4	10/17/2018 9:26	0.37	NTU	Turbidity
GS-GSA-MW-4	10/17/2018 9:31	1249.7	uS/cm	Conductivity
GS-GSA-MW-4	10/17/2018 9:31	92.63	ft	Depth to Water Detail
GS-GSA-MW-4	10/17/2018 9:31	0.35	mg/L	DO
GS-GSA-MW-4	10/17/2018 9:31	290.7	mv	Oxidation Reduction Potention
GS-GSA-MW-4	10/17/2018 9:31	3.81	pH	pH
GS-GSA-MW-4	10/17/2018 9:31	20.21	C	Temperature
GS-GSA-MW-4	10/17/2018 9:31	0.21	NTU	Turbidity
GS-GSA-MW-4	10/17/2018 9:36	1249.8	uS/cm	Conductivity
GS-GSA-MW-4	10/17/2018 9:36	92.63	ft	Depth to Water Detail
GS-GSA-MW-4	10/17/2018 9:36	0.31	mg/L	DO
GS-GSA-MW-4	10/17/2018 9:36	288.2	mv	Oxidation Reduction Potention
GS-GSA-MW-4	10/17/2018 9:36	3.81	pH	pH
GS-GSA-MW-4	10/17/2018 9:36	20.22	C	Temperature
GS-GSA-MW-4	10/17/2018 9:36	0.25	NTU	Turbidity
GS-GSA-MW-4	10/17/2018 9:41	1250.1	uS/cm	Conductivity
GS-GSA-MW-4	10/17/2018 9:41	92.63	ft	Depth to Water Detail
GS-GSA-MW-4	10/17/2018 9:41	0.3	mg/L	DO
GS-GSA-MW-4	10/17/2018 9:41	290.7	mv	Oxidation Reduction Potention
GS-GSA-MW-4	10/17/2018 9:41	3.81	pH	pH
GS-GSA-MW-4	10/17/2018 9:41	20.17	C	Temperature
GS-GSA-MW-4	10/17/2018 9:41	0.17	NTU	Turbidity

**Alabama Power Company  
Plant Gorgas Gypsum Pond**

Well ID	Reading Time	Value	Unit	Description
GS-GSA-MW-8	10/17/2018 12:02	4057.9	uS/cm	Conductivity
GS-GSA-MW-8	10/17/2018 12:02	85.83	ft	Depth to Water Detail
GS-GSA-MW-8	10/17/2018 12:02	0.94	mg/L	DO
GS-GSA-MW-8	10/17/2018 12:02	-69.7	mv	Oxidation Reduction Potention
GS-GSA-MW-8	10/17/2018 12:02	6.72	pH	pH
GS-GSA-MW-8	10/17/2018 12:02	20.59	C	Temperature
GS-GSA-MW-8	10/17/2018 12:02	0.89	NTU	Turbidity
GS-GSA-MW-8	10/17/2018 12:07	4020	uS/cm	Conductivity
GS-GSA-MW-8	10/17/2018 12:07	85.85	ft	Depth to Water Detail
GS-GSA-MW-8	10/17/2018 12:07	0.68	mg/L	DO
GS-GSA-MW-8	10/17/2018 12:07	-56.5	mv	Oxidation Reduction Potention
GS-GSA-MW-8	10/17/2018 12:07	6.78	pH	pH
GS-GSA-MW-8	10/17/2018 12:07	20.57	C	Temperature
GS-GSA-MW-8	10/17/2018 12:07	0.75	NTU	Turbidity
GS-GSA-MW-8	10/17/2018 12:12	3985.6	uS/cm	Conductivity
GS-GSA-MW-8	10/17/2018 12:12	85.85	ft	Depth to Water Detail
GS-GSA-MW-8	10/17/2018 12:12	0.61	mg/L	DO
GS-GSA-MW-8	10/17/2018 12:12	-52.3	mv	Oxidation Reduction Potention
GS-GSA-MW-8	10/17/2018 12:12	6.8	pH	pH
GS-GSA-MW-8	10/17/2018 12:12	20.53	C	Temperature
GS-GSA-MW-8	10/17/2018 12:12	0.76	NTU	Turbidity
GS-GSA-MW-8	10/17/2018 12:17	4000.3	uS/cm	Conductivity
GS-GSA-MW-8	10/17/2018 12:17	85.85	ft	Depth to Water Detail
GS-GSA-MW-8	10/17/2018 12:17	0.58	mg/L	DO
GS-GSA-MW-8	10/17/2018 12:17	-48.5	mv	Oxidation Reduction Potention
GS-GSA-MW-8	10/17/2018 12:17	6.81	pH	pH
GS-GSA-MW-8	10/17/2018 12:17	20.49	C	Temperature
GS-GSA-MW-8	10/17/2018 12:17	0.64	NTU	Turbidity

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

## Analytical Report



**Sample Group :** WMWGORG\_1174

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

**For :** Southern Company Services  
33535 Colonnade Parkway  
Birmingham, AL 35243

**Attention :** Dustin Brooks & Greg Dyer

**Released By :** Laura Midkiff  
lbmidkif@southernco.com  
(205) 807-2676

The following data has been reviewed and approved by:

Quality Control:

Laura Midkiff

Digitally signed by Laura Midkiff  
DN: cn=Laura Midkiff, o=Alabama Power  
Company, ou=Environmental Affairs,  
email=lbmidkif@southernco.com, c=US  
Date: 2018.11.21 09:30:41 -0600

Supervision: T. Durant  
Maske

Digitally signed by T. Durant Maske  
DN: cn=T. Durant Maske, o=Alabama  
Power Company, ou=Environmental  
Affairs, email=tdmaske@southernco.com,  
c=US  
Date: 2018.11.28 16:24:41 -0600

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY24855

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	98.9	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		2.03	0.01	0.05	6.84	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.05	6.72	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	4.24	mg/L
* Manganese, Dissolved	ABB	10/26/2018	EPA 200.8		5.075	0.001	0.005	6.34	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	6.32	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	14.3	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	3.88	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	NA	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L

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.

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

\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. NA result for Alkalinity is due to the initial sample pH reading below the alkalinity titration point of 4.5. pH result is qualified due to result is below the lowest calibration standard. LBM 11/21/2018



Alabama Power General Test Laboratory  
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 Calera, AL 35040  
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 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AY24855

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Manganese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Manganese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. NA result for Alkalinity is due to the initial sample pH reading below the alkalinity titration point of 4.5. pH result is qualified due to result is below the lowest calibration standard. LBM 11/21/2018

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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY24856

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		101.5	10.15	50.75	314	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		203	2.03	10.15	301	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		101.5	1.015	5.075	272	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	11.7	mg/L
* Manganese, Dissolved	ABB	10/29/2018	EPA 200.8		92.365	0.092365	0.461825	28.0	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		92.365	0.092365	0.461825	28.6	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		101.5	10.15	50.75	215	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	6.01	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	125	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0.01	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			125	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18

Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AY24856

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec	
			MB	Limit					Limit	Rec	Limit	Prec		
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5		101	70 to 130	0.391	20
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23		99.4	70 to 130	1.55	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0				0.00	10
AY24864	Manganese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115		-8.92	70 to 130	2.18	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75		811	70 to 130	15.2	20
AY24864	Manganese, Total	mg/L	-0.0000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115		148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05					
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23		100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75		234	70 to 130	16.2	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

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# Certificate Of Analysis



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY24857

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	U Not Detected	mg/L
* Manganese, Dissolved	ABB	10/26/2018	EPA 200.8		5.075	0.001	0.005	0.00711	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	J 0.00232	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	5.40	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	U Not Detected	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGEB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AY24857

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Manganese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Manganese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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

# Certificate Of Analysis Alabama Power



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY24858

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		101.5	10.15	50.75	315	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		2.03	0.01	0.05	2.37	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.05	2.45	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	8.17	mg/L
* Manganese, Dissolved	ABB	10/29/2018	EPA 200.8		92.365	0.092365	0.461825	11.1	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		10.15	0.01015	0.05075	10.4	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		101.5	10.15	50.75	180	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	7.01	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	515	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0.50	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			514	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

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Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AY24858

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS		Rec		Prec
			Limit	MB					Limit	Rec	Limit	Prec	
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Manganese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Manganese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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Expiration: June 30, 2019

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 Calera, AL 35040  
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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY24859

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	U Not Detected	mg/L
* Manganese, Dissolved	ABB	10/26/2018	EPA 200.8		5.075	0.001	0.005	J 0.00369	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	J 0.00105	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	U Not Detected	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	5.61	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	U Not Detected	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18



Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORGFB  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AY24859

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
				Limit	Spike					Rec	Limit		
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Manganese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Manganese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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 Calera, AL 35040  
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 FAX (205) 257-1654

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

**Customer Account:** WMWGORG  
**Sample Date:** 17-Oct-18  
**Customer ID:**  
**Delivery Date:** 18-Oct-18

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

**Laboratory ID Number:** AY24860

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		20.3	2.03	10.15	565	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.05	J 0.0117	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	9.27	mg/L
* Manganese, Dissolved	ABB	10/26/2018	EPA 200.8		5.075	0.001	0.005	0.00531	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		5.075	0.001	0.005	J 0.00281	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		20.3	2.03	10.15	42.2	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	6.35	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	169	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0.04	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			169	mg/L

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# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AY24860

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS	Rec		Prec	Limit
				Limit	Spike					Limit	Prec		
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Mangnese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Mangnese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20

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 Calera, AL 35040  
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 FAX (205) 257-1654

# Certificate Of Analysis



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY24861

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	210	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		10.15	0.1015	0.5075	13.2	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		10.15	0.1015	0.5075	12.1	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	6.38	mg/L
* Manganese, Dissolved	ABB	10/29/2018	EPA 200.8		92.365	0.092365	0.461825	8.58	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		10.15	0.01015	0.05075	8.18	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	30.1	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	6.11	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	225	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0.03	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			225	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18

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

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AY24861

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
			MB	Limit						Rec	Limit		
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Mangnese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Mangnese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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Laboratory certification ID: E571114

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**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18

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

**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L DUP

Laboratory ID Number: AY24862

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	209	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		10.15	0.1015	0.5075	12.8	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		10.15	0.1015	0.5075	11.8	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	6.31	mg/L
* Manganese, Dissolved	ABB	10/29/2018	EPA 200.8		92.365	0.092365	0.461825	8.86	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		10.15	0.01015	0.05075	8.43	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	30.2	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	6.12	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	225	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0.03	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			225	mg/L

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\* Test results for these accredited parameters meet all 2003 NELAC and 2009 TNI requirements, with exceptions noted on this report

Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18

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 744 County Road 87, GSC#8  
 Calera, AL 35040  
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# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-2L DUP

Laboratory ID Number: AY24862

Sample	Analysis	Units	MB	MB		MS	MSD	LCS	LCS Limit	Rec		Prec Limit	
				Limit	Spike					Rec	Limit		
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Manganese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Manganese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY24863

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		50.75	5.075	25.375	548	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		101.5	1.015	5.075	52.8	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		50.75	0.5075	2.5375	52.5	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	10.3	mg/L
* Manganese, Dissolved	ABB	10/26/2018	EPA 200.8		5.075	0.001	0.005	6.63	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		10.15	0.01015	0.05075	6.57	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		50.75	5.075	25.375	55.3	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	4.52	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	U Not Detected	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. LBM 11/21/18



Alabama Power General Test Laboratory  
 744 County Road 87, GSC#8  
 Calera, AL 35040  
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# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AY24863

Sample	Analysis	Units	MB		Spike	MS	MSD	LCS	LCS Limit	Rec		Prec Limit
			MB	Limit						Rec	Limit	
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391 20
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55 20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03 20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2 20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00 10
AY24864	Mangnese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18 20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2 20
AY24864	Mangnese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99 20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05			

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Alabama Power General Test Laboratory  
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 Calera, AL 35040  
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**Certificate Of Analysis**  **Alabama Power**



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY24864

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
<b>Metals, Cyanide, Total Phenols</b>									
* Magnesium, Total	RDA	11/9/2018	EPA 200.7		10.15	1.015	5.075	310	mg/L
* Iron, Dissolved	RDA	11/6/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Iron, Total	RDA	11/9/2018	EPA 200.7		2.03	0.01	0.05	U Not Detected	mg/L
* Potassium, Total	ABB	11/1/2018	EPA 200.8		5.075	0.215	2.5	7.54	mg/L
* Manganese, Dissolved	ABB	10/29/2018	EPA 200.8		92.365	0.092365	0.461825	10.9	mg/L
* Manganese, Total	ABB	11/1/2018	EPA 200.8		10.15	0.01015	0.05075	10.1	mg/L
* Sodium, Total	RDA	11/9/2018	EPA 200.7		2.03	0.1	0.5	38.2	mg/L
<b>General Characteristics</b>									
pH for Alkalinity	EMG	10/30/2018	SM 4500H+ B		1		4.00	5.38	SU
Alkalinity, Total as CaCO3	EMG	10/30/2018	SM 2320 B		1		0.10	23.4	mg/L
Carbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			0.00	mg/L
Bicarbonate Alkalinity, as CaCO3	EMG	10/30/2018	SM 4500CO2 D		1			23.4	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Recovery for Total Sodium, Total Mg, Total Mn, and Dissolved Mn are out of spec. Spike amount is less than 30% of sample amount. LBM 11/21/18

Alabama Power General Test Laboratory  
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 Calera, AL 35040  
 (205) 664-6032 or 6171  
 FAX (205) 257-1654

# Batch QC Summary



To: Dustin Brooks  
 Greg Dyer

Customer Account: WMWGORG  
 Sample Date: 17-Oct-18  
 Customer ID:  
 Delivery Date: 18-Oct-18

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AY24864

Sample	Analysis	Units	MB		MS	MSD	LCS	LCS Limit	Rec		Prec	Prec Limit	
			MB	Limit					Rec	Limit			
AY24864	Iron, Dissolved	mg/L	-0.000836	0.022	0.2	0.199	0.202	0.205	0.17 to 0.23	99.4	70 to 130	1.55	20
AY24864	Potassium, Total	mg/L	-0.000669	0.0946	10.0	17.6	17.7	10.7	8.5 to 11.5	101	70 to 130	0.391	20
AY24864	Iron, Total	mg/L	-0.000596	0.022	0.2	0.201	0.195	0.201	0.17 to 0.23	100	70 to 130	3.03	20
AY24864	Sodium, Total	mg/L	-0.00500	0.22	5.00	49.9	42.4	5.08	4.25 to 5.75	234	70 to 130	16.2	20
AY24864	Alkalinity, Total as CaCO3	mg/L					23.4	49.6	45.0 to 55.0			0.00	10
AY24864	Mangnese, Dissolved	mg/L	0.000134	0.005	0.10	10.8	10.6		0.085 to 0.115	-8.92	70 to 130	2.18	20
AY24864	Magnesium, Total	mg/L	-0.0134	0.22	5.00	351	301	4.91	4.25 to 5.75	811	70 to 130	15.2	20
AY24864	Mangnese, Total	mg/L	-0.00000523	0.0022	0.10	10.3	9.96	0.0978	0.085 to 0.115	148	70 to 130	2.99	20
AY24864	pH for Alkalinity	SU						6.99	6.95 to 7.05				

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2019

**Comments:** The client submitted filtered samples for dissolved analysis, but no MB or LCS were submitted. Therefore, dissolved data is qualified. Recovery for Total Sodium, Total Mg, Total Mn, and Dissolved Mn are out of spec. Spike amount is less than 30% of sample amount. LBM 11/21/18

## Definitions



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
B	Analyte found in reagent blank. Indicates possible reagent or background contamination.
E	Estimated reported value exceeded calibration range.
J	Reported value is an estimate because concentration is less than reporting limit.
N	Organic constituents tentatively identified. Confirmation is needed.
R	Matrix spike recovery is out of range.
U	Compound was analyzed, but not detected.
P	Precision is out of range.
C	Analyte was verified by re-analysis.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.
L	Check standard is outside of the required specification limit.
D	All samples were stored at less than or equal to 6 °C and for no longer than 48 hours from time of sampling, unless otherwise noted.
F	Water Field Group (WFG) qualifier; see comments for more information



# Chain of Custody Groundwater

APC General Testing Laboratory

Field Complete  
 Lab Complete

Outside Lab

Lab ETA **10/18/2018 08:45**

Requested Complete Date  Site Representative  Collector	Routine	Results To  Requested By  Location	Dustin Brooks, Greg Dyer	
	Che George		Greg Dyer	
	Ben Rothschadl		Gorgas Gypsum	

Bottles		1	Metals	500 mL	3	Alkalinity	250 mL	5	N/A	N/A	7	N/A	N/A
		2	Dissolved Meta	500 mL	4	N/A	N/A	6	N/A	N/A	8	N/A	N/A

Comments MW-2L & MW-2L DUP time corrected to 15:39 per Ben Rothschadl. LBM 10/18/18

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-4	10/17/18	09:43	3	Groundwater		AY24855
MW-3	10/17/2018	10:45	3	Groundwater		AY24856
EB-1	10/17/2018	11:20	3	Equipment Blank		AY24857
MW-8	10/17/2018	12:19	3	Groundwater		AY24858
FB-1	10/17/2018	13:15	3	Field Blank		AY24859
MW-4L	10/17/2018	14:18	3	Groundwater		AY24860
MW-2L	10/17/2018	15:39	3	Groundwater		AY24861
MW-2L DUP	10/17/2018	15:39	3	Sample Duplicate		AY24862

Relinquished By	Received By	Date/Time
		10/18/2018 09:39

<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:20%;">SmarTroll ID</td><td>6496-34170-1-1</td></tr> <tr><td>Turbidity ID</td><td>4677-23343-4-2</td></tr> <tr><td>Sample Event</td><td>1174</td></tr> </table>	SmarTroll ID	6496-34170-1-1	Turbidity ID	4677-23343-4-2	Sample Event	1174	<p>All metals and radiological bottles have pH &lt; 2 <input checked="" type="checkbox"/></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>Cooler Temp</td><td>0.1 degrees C</td></tr> <tr><td>Thermometer ID</td><td>5408-27568-2-2</td></tr> <tr><td>pH Strip ID</td><td>6959-37697-30-18</td></tr> </table>	Cooler Temp	0.1 degrees C	Thermometer ID	5408-27568-2-2	pH Strip ID	6959-37697-30-18
SmarTroll ID	6496-34170-1-1												
Turbidity ID	4677-23343-4-2												
Sample Event	1174												
Cooler Temp	0.1 degrees C												
Thermometer ID	5408-27568-2-2												
pH Strip ID	6959-37697-30-18												



# Chain of Custody

## Groundwater

APC General Testing Laboratory

 Field Complete  
 Lab Complete

 Outside Lab

Lab ETA 10/18/2018 10:00

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer		
	Site Representative		Che George	Requested By	Greg Dyer
	Collector		Anthony Goggins		Location

Bottles	1	Metals	500 mL	3	Alkalinity	250 mL	5	N/A	N/A	7	N/A	N/A
	2	Dissolved Meta	500 mL	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-3L	10/17/18	14:53	3	Groundwater		AY24863
MW-1L	10/17/2018	16:05	3	Groundwater		AY24864

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	<i>Dustin Brooks</i>	10/18/2018 09:41

SmarTroll ID	4696-23443-3-2
Turbidity ID	5160-26211-1-1
Sample Event	1174

All metals and radiological bottles have pH < 2

Cooler Temp	0.3 degrees C
Thermometer ID	5408-27568-2-2
pH Strip ID	6959-37697-30-18

# Appendix B

1<sup>st</sup> Semi-Annual

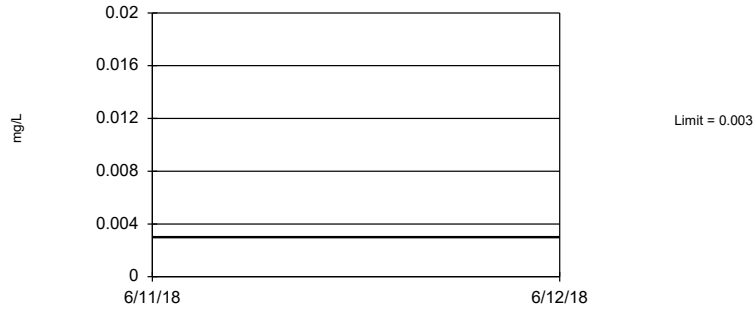


# Upper Tolerance Limits - App IV

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/14/2019, 2:04 PM

<u>Constituent</u>	<u>Upper Lim.</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)	0.003	40	n/a	n/a	100	n/a	n/a	0.1285	NP Inter(NDs)
Arsenic (mg/L)	0.005	40	n/a	n/a	92.5	n/a	n/a	0.1285	NP Inter(NDs)
Barium (mg/L)	0.01501	40	0.1037	0.008855	0	None	sqrt(x)	0.05	Inter
Beryllium (mg/L)	0.0071	39	n/a	n/a	82.05	n/a	n/a	0.1353	NP Inter(NDs)
Boron (mg/L)	0.05844	40	0.03624	0.01045	7.5	None	No	0.05	Inter
Cadmium (mg/L)	0.00351	39	n/a	n/a	48.72	n/a	n/a	0.1353	NP Inter(normal...
Chromium (mg/L)	0.0105	40	n/a	n/a	95	n/a	n/a	0.1285	NP Inter(NDs)
Cobalt (mg/L)	0.738	40	-3.425	1.468	25	Kapla...	ln(x)	0.05	Inter
Combined Radium 226 + 228 (pCi/L)	1.174	40	0.4684	0.332	0	None	No	0.05	Inter
Fluoride (mg/L)	0.4971	44	0.2227	0.1307	0	None	No	0.05	Inter
Lead (mg/L)	0.005	40	n/a	n/a	100	n/a	n/a	0.1285	NP Inter(NDs)
Lithium (mg/L)	0.237	38	n/a	n/a	0	n/a	n/a	0.1424	NP Inter(normal...
Mercury (mg/L)	0.0005	40	n/a	n/a	100	n/a	n/a	0.1285	NP Inter(NDs)
Molybdenum (mg/L)	0.01	40	n/a	n/a	100	n/a	n/a	0.1285	NP Inter(NDs)
Selenium (mg/L)	0.0209	40	n/a	n/a	70	n/a	n/a	0.1285	NP Inter(normal...
Thallium (mg/L)	0.001	40	n/a	n/a	97.5	n/a	n/a	0.1285	NP Inter(NDs)

### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Antimony Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

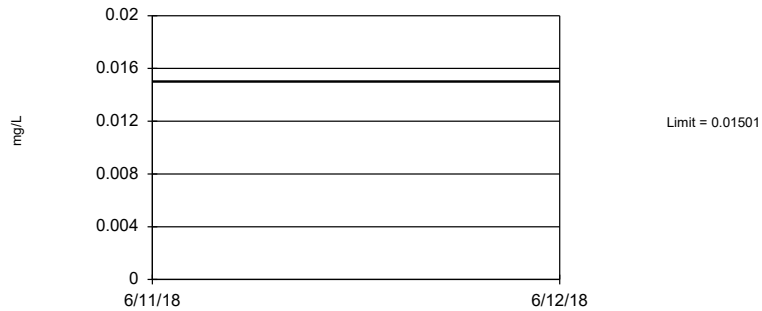
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 40 background values. 92.5% NDs. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Arsenic Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Parametric



95% coverage. Background Data Summary (based on square root transformation): Mean=0.1037, Std. Dev.=0.008855, n=40. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.921, critical = 0.919. Report alpha = 0.05.

Constituent: Barium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

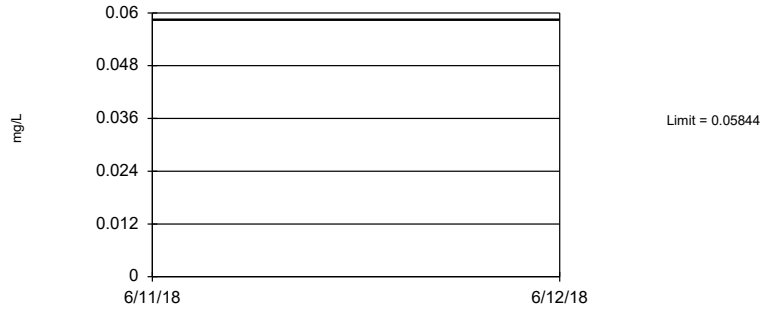
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 39 background values. 82.05% NDs. 88.87% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1353.

Constituent: Beryllium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

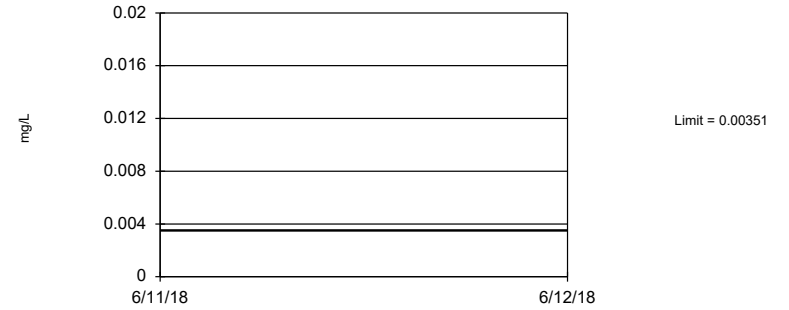
### Tolerance Limit Interwell Parametric



95% coverage. Background Data Summary: Mean=0.03624, Std. Dev.=0.01045, n=40, 7.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9286, critical = 0.919. Report alpha = 0.05.

Constituent: Boron Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

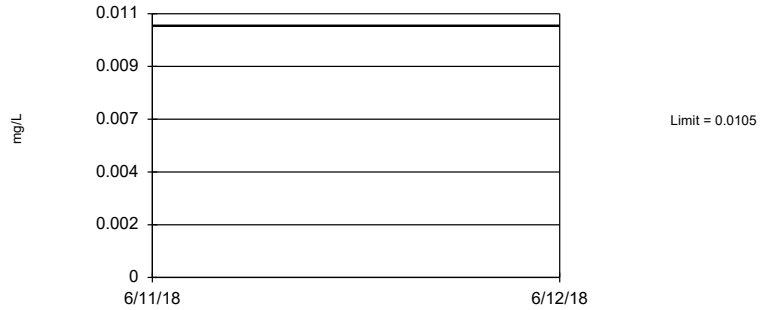
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 39 background values. 48.72% NDs. 88.87% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1353.

Constituent: Cadmium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

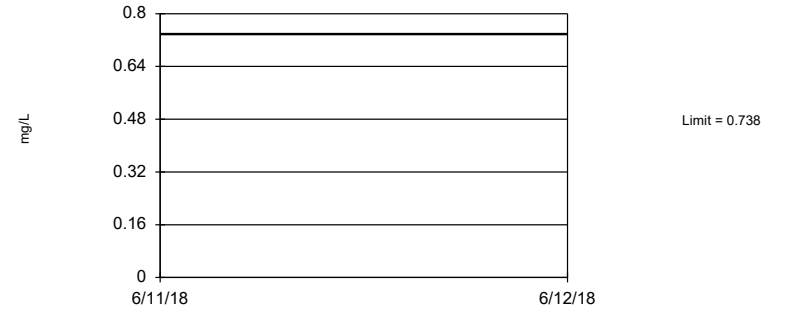
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 40 background values. 95% NDs. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Chromium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Parametric



95% coverage. Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-3.425, Std. Dev.=1.468, n=40, 25% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9298, critical = 0.919. Report alpha = 0.05.

Constituent: Cobalt Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Parametric



95% coverage. Background Data Summary: Mean=0.4684, Std. Dev.=0.332, n=40. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9783, critical = 0.919. Report alpha = 0.05.

Constituent: Combined Radium 226 + 228 Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Parametric



95% coverage. Background Data Summary: Mean=0.2227, Std. Dev.=0.1307, n=44. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9425, critical = 0.924. Report alpha = 0.05.

Constituent: Fluoride Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

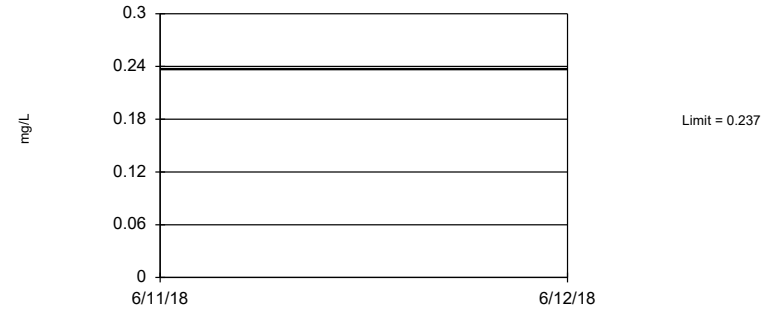
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Lead Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

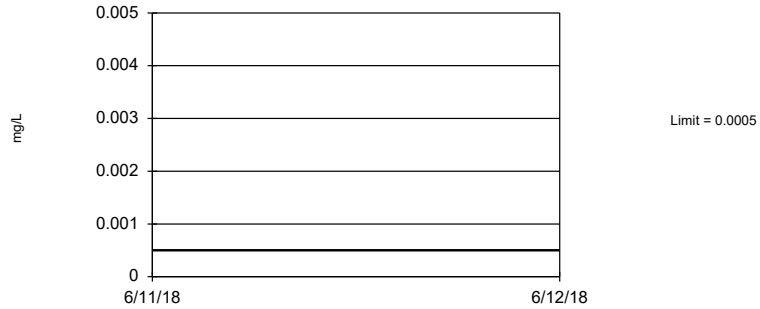
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 38 background values. 88.48% coverage at alpha=0.01; 92.38% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1424.

Constituent: Lithium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Mercury Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

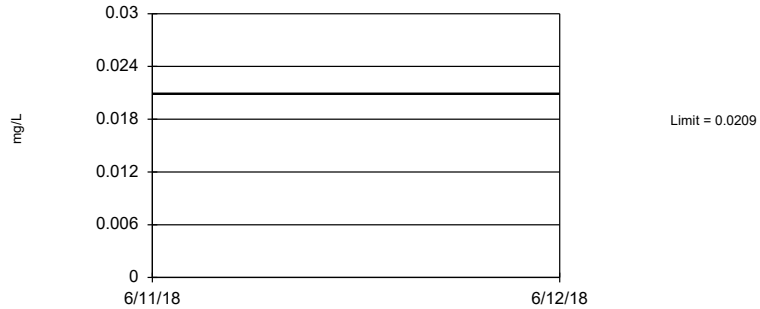
### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Molybdenum Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 40 background values. 70% NDs. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Selenium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Tolerance Limit Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 40 background values. 97.5% NDs. 89.26% coverage at alpha=0.01; 92.77% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1285.

Constituent: Thallium Analysis Run 1/14/2019 2:00 PM View: UTLs - Appendix IV  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

# Confidence Intervals - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/31/2019, 11:51 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	GS-GSA-MW-3	0.4992	0.3932	0.237	Yes	10	0	No	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-4	0.2915	0.2679	0.237	Yes	10	0	No	0.01	Param.

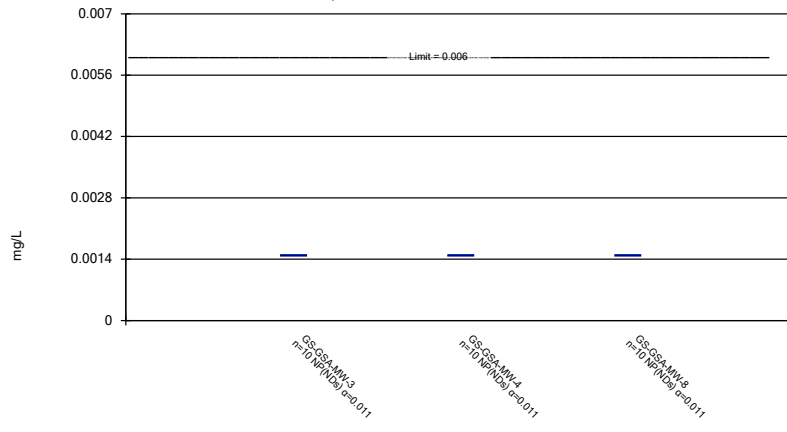
# Confidence Intervals - All Results

Plant William C Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 1/31/2019, 11:51 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.0015	0.0015	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-4	0.0015	0.0015	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.0015	0.0015	0.006	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.0025	0.0025	0.01	No	10	90	No	0.011	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-4	0.0025	0.0025	0.01	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-8	0.0025	0.00103	0.01	No	10	60	No	0.011	NP (normality)
Barium (mg/L)	GS-GSA-MW-3	0.0155	0.0118	2	No	10	0	No	0.011	NP (normality)
Barium (mg/L)	GS-GSA-MW-4	0.01301	0.01147	2	No	10	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.05623	0.02619	2	No	10	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00387	0.000922	0.0071	No	10	20	No	0.011	NP (Cohens/xfrm)
Beryllium (mg/L)	GS-GSA-MW-4	0.005513	0.004725	0.0071	No	10	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-8	0.0015	0.0015	0.0071	No	10	100	No	0.011	NP (NDs)
Boron (mg/L)	GS-GSA-MW-3	3.426	1.316	4	No	10	0	No	0.01	Param.
Boron (mg/L)	GS-GSA-MW-4	4.75	3.684	4	No	10	0	No	0.01	Param.
Boron (mg/L)	GS-GSA-MW-8	0.1321	0.07353	4	No	10	0	No	0.01	Param.
Cadmium (mg/L)	GS-GSA-MW-3	0.0005	0.0005	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	GS-GSA-MW-4	0.001615	0.001337	0.005	No	10	0	No	0.01	Param.
Cadmium (mg/L)	GS-GSA-MW-8	0.0005	0.0005	0.005	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-3	0.005	0.005	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-4	0.005	0.005	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-8	0.005	0.005	0.1	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	GS-GSA-MW-3	0.1104	0.04083	0.738	No	9	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.1702	0.1487	0.738	No	10	0	sqrt(x)	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-8	0.0253	0.00277	0.738	No	10	30	No	0.011	NP (Cohens/xfrm)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.7203	0.2178	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.027	0.3813	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	0.8234	0.3686	5	No	10	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.5278	0.2685	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-4	0.6962	0.4971	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-8	0.1709	0.1004	4	No	11	0	x^2	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.0025	0.0025	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	GS-GSA-MW-4	0.0025	0.0025	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	GS-GSA-MW-8	0.0025	0.0025	0.015	No	10	100	No	0.011	NP (NDs)
<b>Lithium (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>0.4992</b>	<b>0.3932</b>	<b>0.237</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Lithium (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>0.2915</b>	<b>0.2679</b>	<b>0.237</b>	<b>Yes</b>	<b>10</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Lithium (mg/L)	GS-GSA-MW-8	0.1598	0.07123	0.237	No	8	0	x^3	0.01	Param.
Mercury (mg/L)	GS-GSA-MW-3	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	GS-GSA-MW-4	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	GS-GSA-MW-8	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-3	0.005	0.005	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-4	0.005	0.005	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-8	0.005	0.0031	0.1	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	GS-GSA-MW-3	0.005	0.00236	0.05	No	10	70	No	0.011	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.005842	0.002634	0.05	No	10	0	No	0.01	Param.
Selenium (mg/L)	GS-GSA-MW-8	0.005	0.005	0.05	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	GS-GSA-MW-3	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	GS-GSA-MW-4	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	GS-GSA-MW-8	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)

### Non-Parametric Confidence Interval

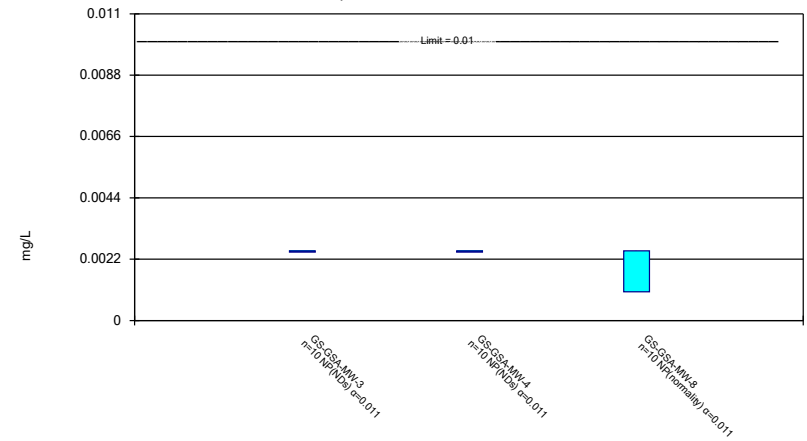
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/31/2019 11:49 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

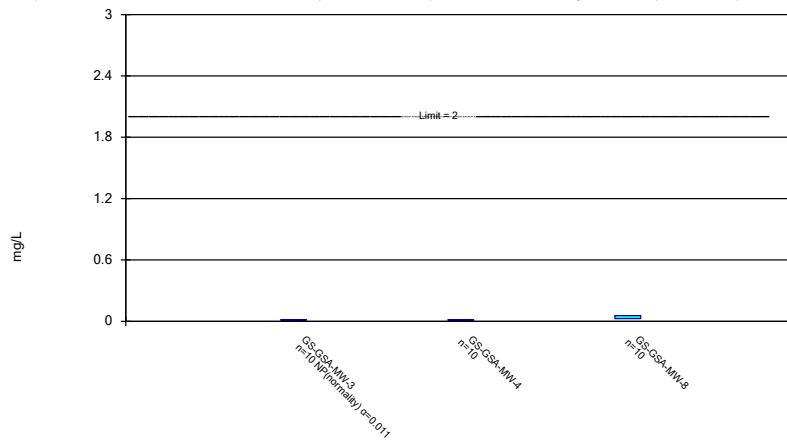
Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 1/31/2019 11:49 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

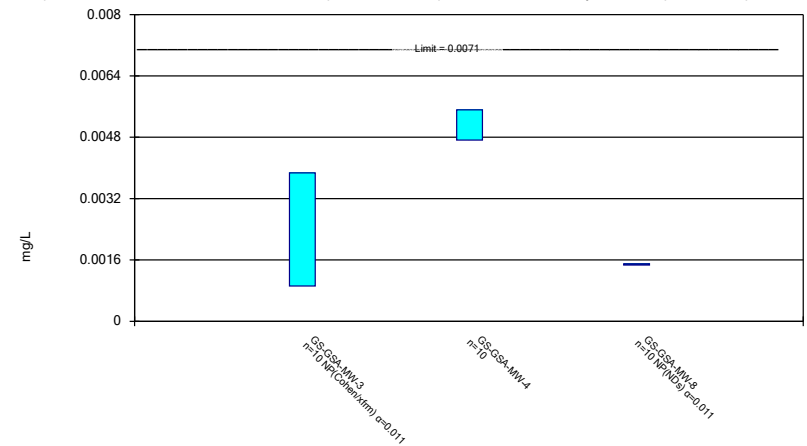
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/31/2019 11:49 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

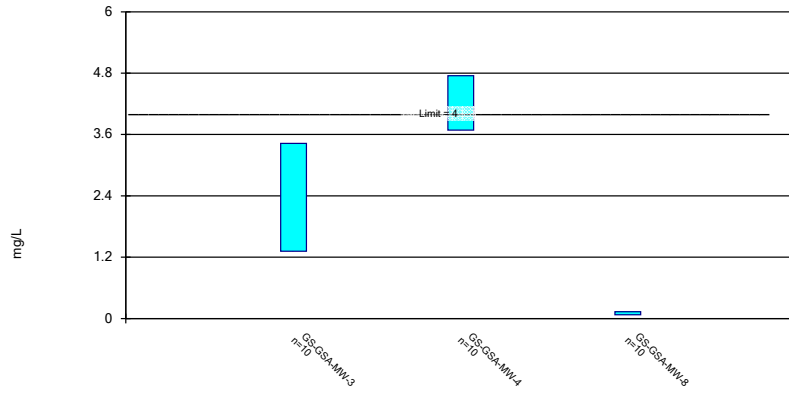


Constituent: Beryllium Analysis Run 1/31/2019 11:49 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA



### Parametric Confidence Interval

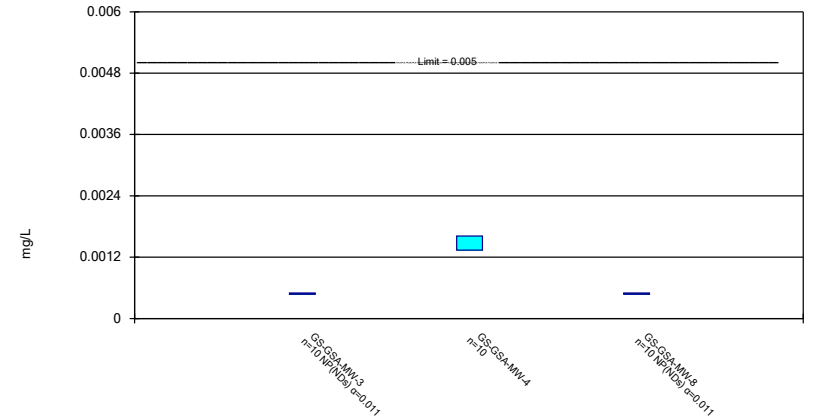
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Boron Analysis Run 1/31/2019 11:49 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

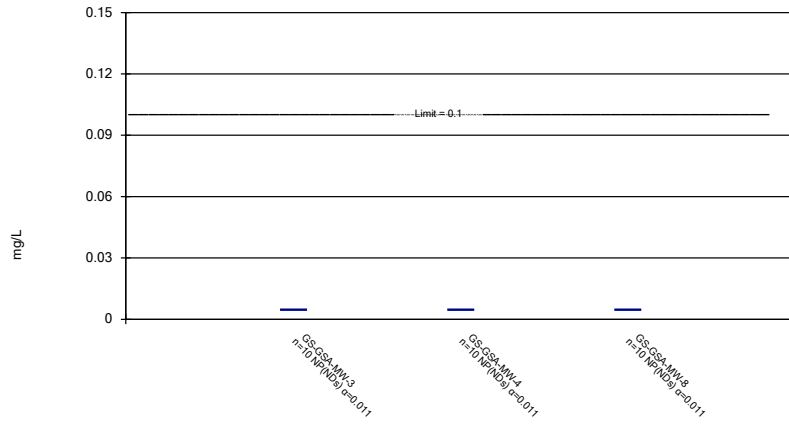
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

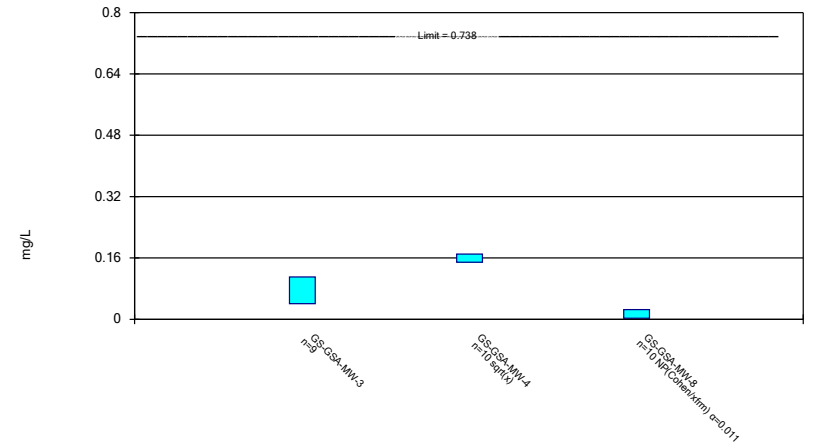
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

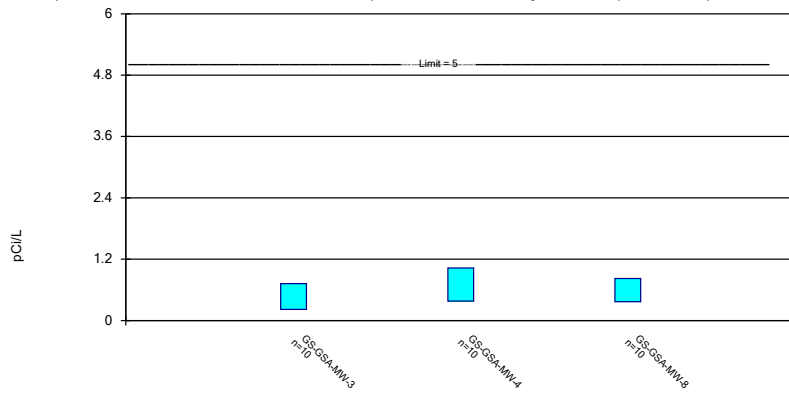
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

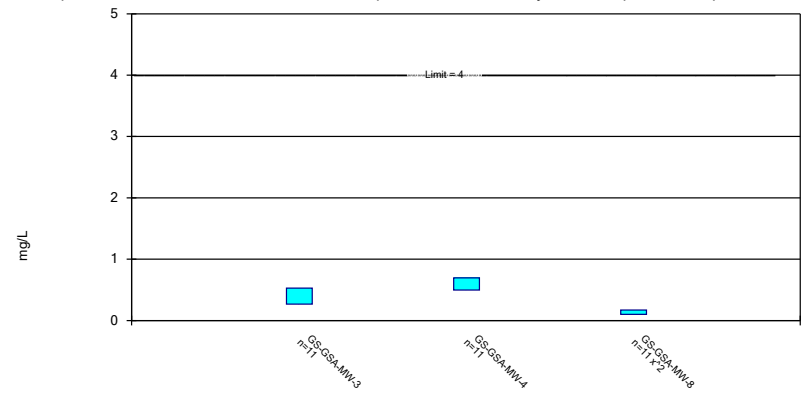
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

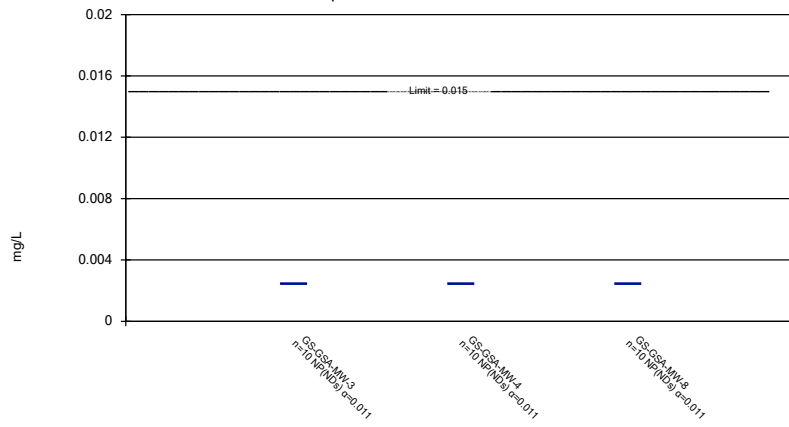
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

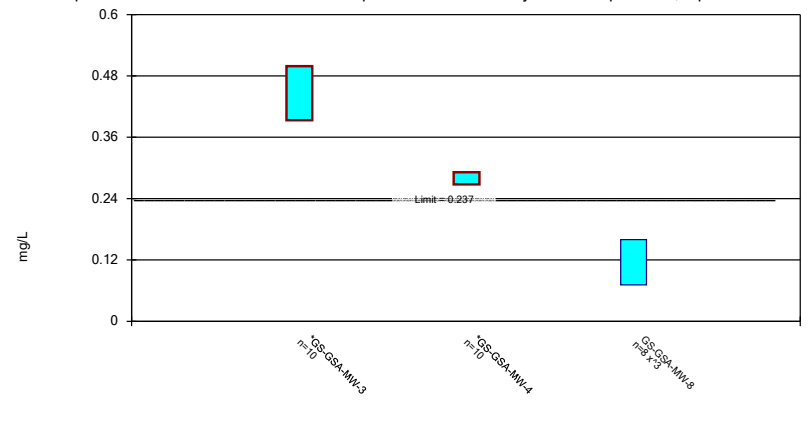
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

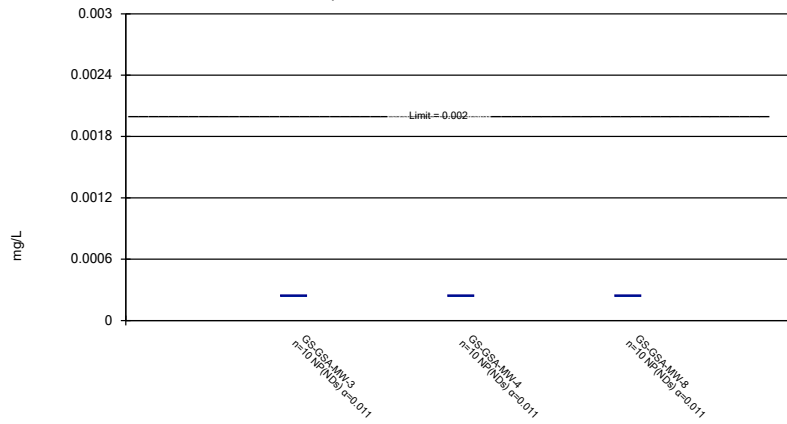
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

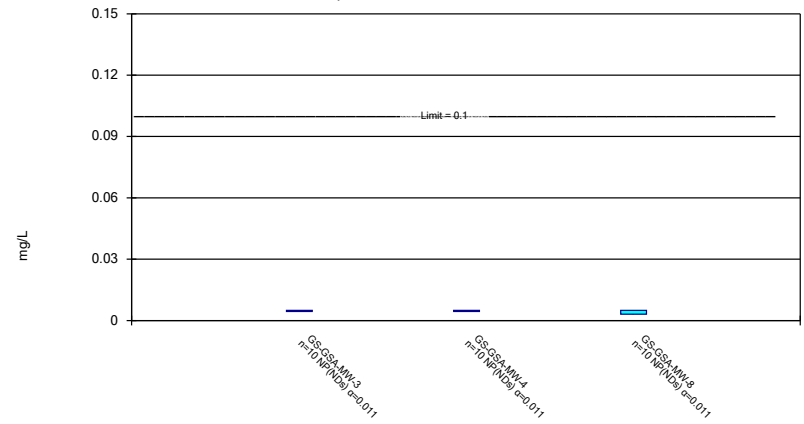
Compliance Limit is not exceeded.



Constituent: Mercury Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

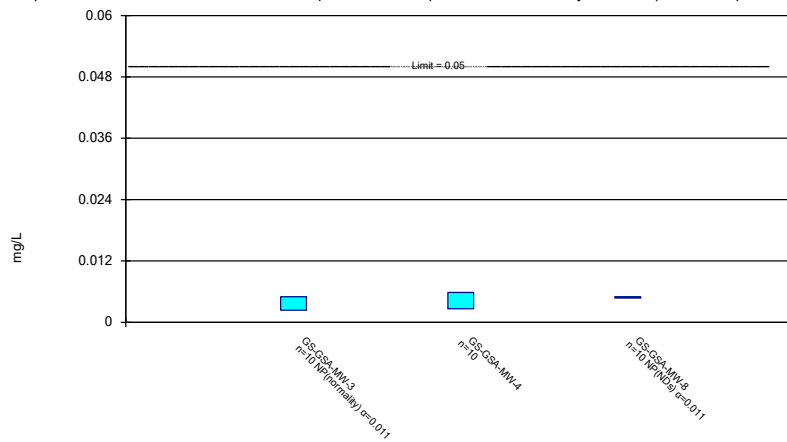
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

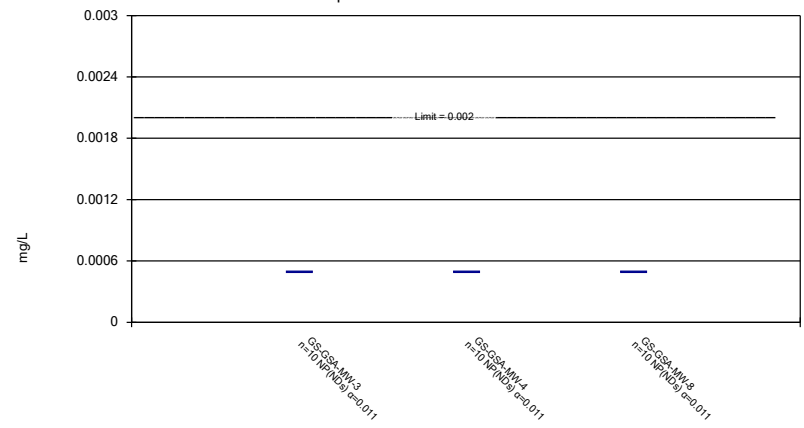
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 1/31/2019 11:50 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

# 2<sup>nd</sup> Semi-Annual

# Interwell Prediction Limit - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/9/2019, 12:42 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>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-3	0.1	n/a	10/17/2018	2.59	Yes	44	15.91	n/a	0.000...	NP Inter (normality) ...
Boron (mg/L)	GS-GSA-MW-4	0.1	n/a	10/17/2018	3.98	Yes	44	15.91	n/a	0.000...	NP Inter (normality) ...
Boron (mg/L)	GS-GSA-MW-8	0.1	n/a	10/17/2018	0.616	Yes	44	15.91	n/a	0.000...	NP Inter (normality) ...
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	10/17/2018	533	Yes	44	0	n/a	0.000...	NP Inter (normality) ...
Calcium (mg/L)	GS-GSA-MW-8	431	n/a	10/17/2018	514	Yes	44	0	n/a	0.000...	NP Inter (normality) ...
Chloride (mg/L)	GS-GSA-MW-3	4	n/a	10/17/2018	270	Yes	44	6.818	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	4	n/a	10/17/2018	85	Yes	44	6.818	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	4	n/a	10/17/2018	180	Yes	44	6.818	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.4758	n/a	10/17/2018	0.78	Yes	48	0	No	0.002505	Param Inter 1 of 2

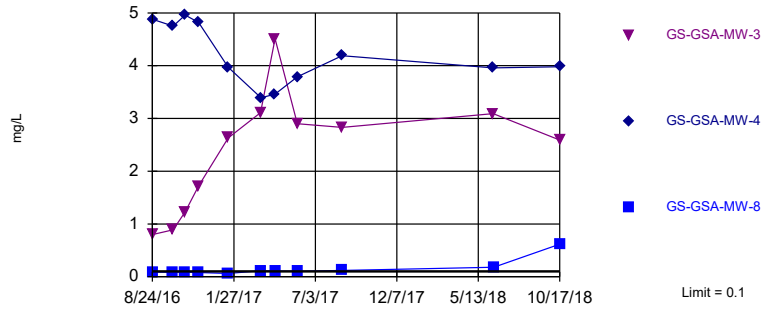
# Interwell Prediction Limit - All Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/9/2019, 12:42 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>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>0.1</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>2.59</b>	<b>Yes</b>	<b>44</b>	<b>15.91</b>	<b>n/a</b>	<b>0.000...</b>	<b>NP Inter (normality) ...</b>
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>0.1</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>3.98</b>	<b>Yes</b>	<b>44</b>	<b>15.91</b>	<b>n/a</b>	<b>0.000...</b>	<b>NP Inter (normality) ...</b>
<b>Boron (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>0.1</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>0.616</b>	<b>Yes</b>	<b>44</b>	<b>15.91</b>	<b>n/a</b>	<b>0.000...</b>	<b>NP Inter (normality) ...</b>
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>431</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>533</b>	<b>Yes</b>	<b>44</b>	<b>0</b>	<b>n/a</b>	<b>0.000...</b>	<b>NP Inter (normality) ...</b>
Calcium (mg/L)	GS-GSA-MW-4	431	n/a	10/17/2018	117	No	44	0	n/a	0.000...	NP Inter (normality) ...
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>431</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>514</b>	<b>Yes</b>	<b>44</b>	<b>0</b>	<b>n/a</b>	<b>0.000...</b>	<b>NP Inter (normality) ...</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>4</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>270</b>	<b>Yes</b>	<b>44</b>	<b>6.818</b>	<b>No</b>	<b>0.002505</b>	<b>Param Inter 1 of 2</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-4</b>	<b>4</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>85</b>	<b>Yes</b>	<b>44</b>	<b>6.818</b>	<b>No</b>	<b>0.002505</b>	<b>Param Inter 1 of 2</b>
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>4</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>180</b>	<b>Yes</b>	<b>44</b>	<b>6.818</b>	<b>No</b>	<b>0.002505</b>	<b>Param Inter 1 of 2</b>
<b>Fluoride (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>0.4758</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>0.78</b>	<b>Yes</b>	<b>48</b>	<b>0</b>	<b>No</b>	<b>0.002505</b>	<b>Param Inter 1 of 2</b>
Fluoride (mg/L)	GS-GSA-MW-4	0.4758	n/a	10/17/2018	0.44	No	48	0	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-8	0.4758	n/a	10/17/2018	0.16	No	48	0	No	0.002505	Param Inter 1 of 2

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

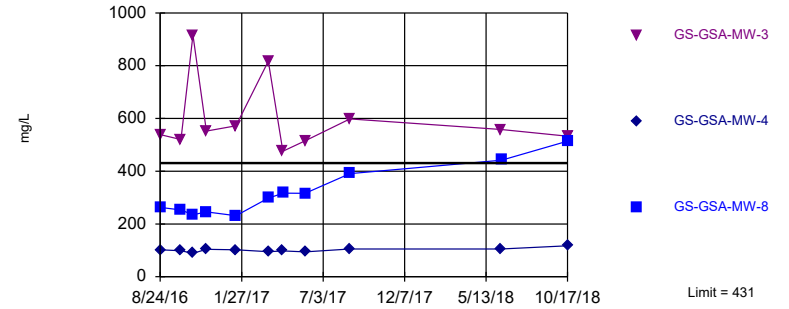


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 44 background values. 15.91% NDs. Annual per-constituent alpha = 0.005902. Individual comparison alpha = 0.0009861 (1 of 2). Comparing 3 points to limit.

Constituent: Boron Analysis Run 1/9/2019 12:40 PM View: PLs - Interwell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-8

Prediction Limit  
Interwell Non-parametric

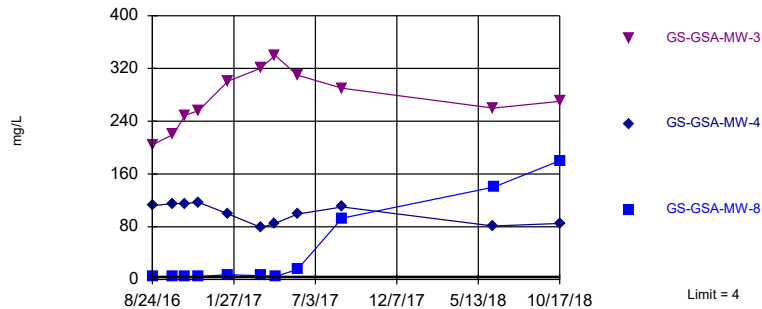


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 44 background values. Annual per-constituent alpha = 0.005902. Individual comparison alpha = 0.0009861 (1 of 2). Comparing 3 points to limit.

Constituent: Calcium Analysis Run 1/9/2019 12:40 PM View: PLs - Interwell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit  
Interwell Parametric

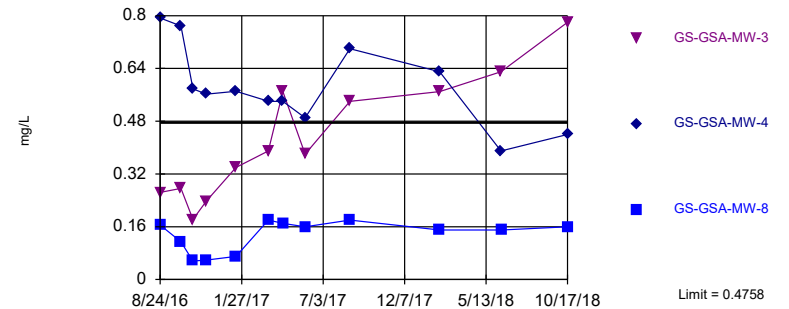


Background Data Summary: Mean=2.368, Std. Dev.=0.9385, n=44, 6.818% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9349, critical = 0.924. Kappa = 1.739 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Chloride Analysis Run 1/9/2019 12:40 PM View: PLs - Interwell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3

Prediction Limit  
Interwell Parametric



Background Data Summary: Mean=0.2325, Std. Dev.=0.1407, n=48. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.935, critical = 0.929. Kappa = 1.73 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Fluoride Analysis Run 1/9/2019 12:40 PM View: PLs - Interwell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

# Intrawell Prediction Limit - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/9/2019, 12:45 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>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
<b>TDS (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>3206</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>3550</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>



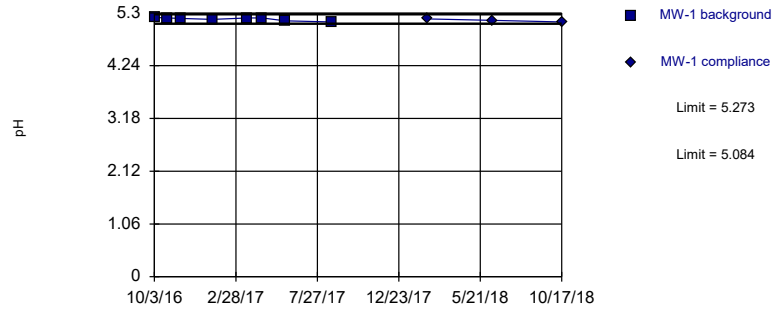
# Intrawell Prediction Limit - All Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/9/2019, 12:45 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>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
pH (pH)	MW-1	5.273	5.084	10/17/2018	5.12	No	8	0	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.12	5.682	10/17/2018	5.9	No	8	0	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-3	6.769	3.813	10/17/2018	4.75	No	8	0	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.222	6.031	10/17/2018	6.12	No	8	0	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-3	6.636	5.44	10/17/2018	5.88	No	8	0	x^4	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-4	3.877	3.706	10/17/2018	3.81	No	8	0	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-8	7.503	6.022	10/17/2018	6.81	No	8	0	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1603	n/a	10/17/2018	1400	No	8	0	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1379	n/a	10/17/2018	970	No	8	0	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3705	n/a	10/17/2018	2700	No	8	0	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3230	n/a	10/17/2018	2600	No	8	0	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-3	3298	n/a	10/17/2018	2800	No	8	0	x^2	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	684.3	n/a	10/17/2018	520	No	8	0	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-8	1612	n/a	10/17/2018	1600	No	8	0	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-1	2343	n/a	10/17/2018	2220	No	8	0	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-2	2130	n/a	10/17/2018	1740	No	8	0	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-3	5410	n/a	10/17/2018	4730	No	8	0	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-4	4612	n/a	10/17/2018	4250	No	8	0	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	GS-GSA-MW-3	6033	n/a	10/17/2018	4910	No	8	0	x^3	0.002505	Param Intra 1 of 2
TDS (mg/L)	GS-GSA-MW-4	1143	n/a	10/17/2018	928	No	8	0	No	0.002505	Param Intra 1 of 2
<b>TDS (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>3206</b>	<b>n/a</b>	<b>10/17/2018</b>	<b>3550</b>	<b>Yes</b>	<b>8</b>	<b>0</b>	<b>No</b>	<b>0.002505</b>	<b>Param Intra 1 of 2</b>

Within Limits

### Prediction Limit Intrawell Parametric

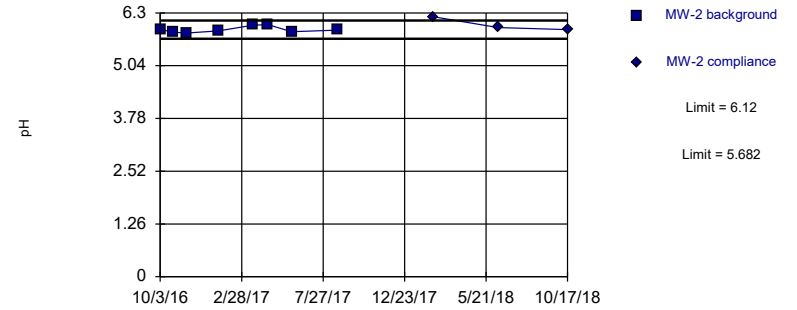


Background Data Summary: Mean=5.179, Std. Dev.=0.03271, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8386, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

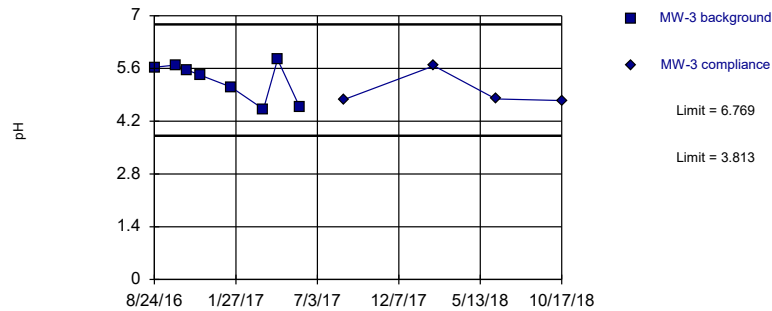


Background Data Summary: Mean=5.901, Std. Dev.=0.07568, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8668, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

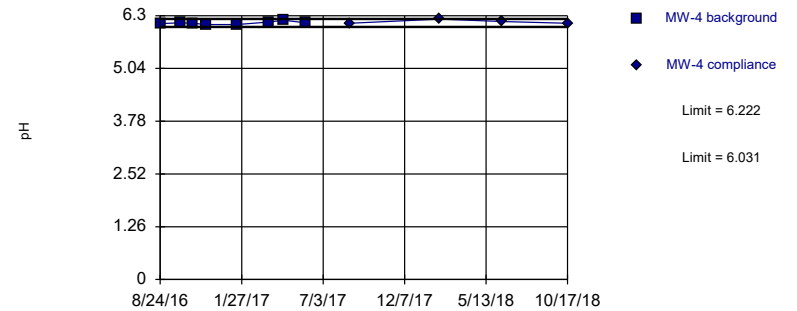


Background Data Summary: Mean=5.291, Std. Dev.=0.5108, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8624, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

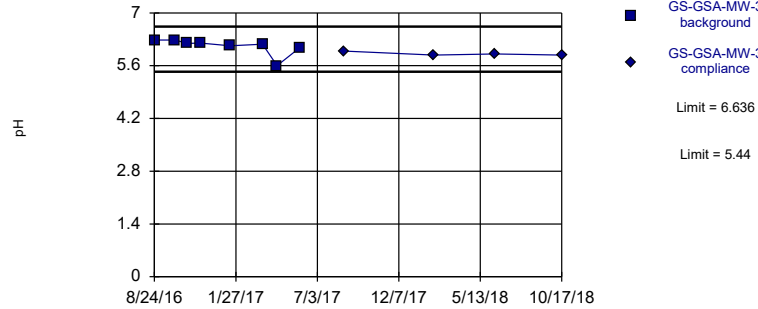


Background Data Summary: Mean=6.126, Std. Dev.=0.03292, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.92, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

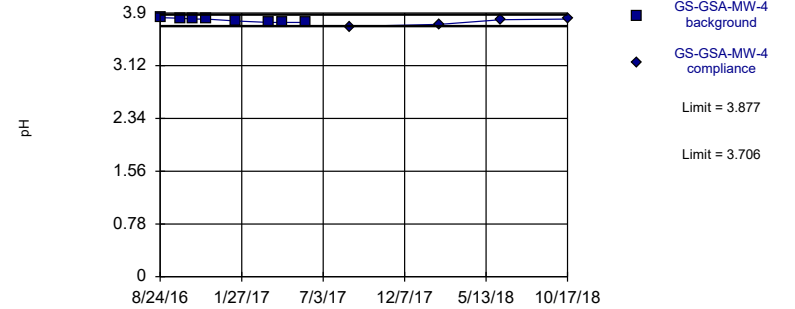


Background Data Summary (based on x^4 transformation): Mean=1407, Std. Dev.=183.8, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7505, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

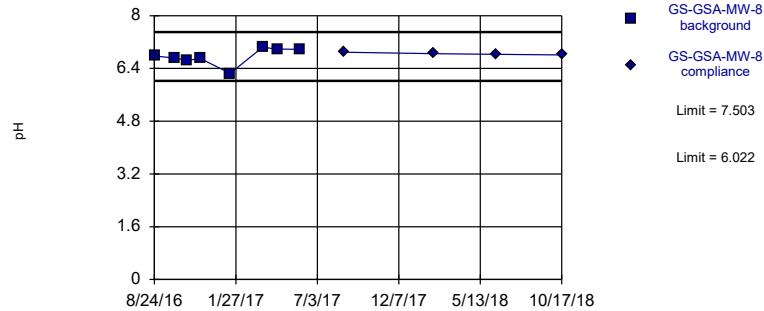


Background Data Summary: Mean=3.791, Std. Dev.=0.02949, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8456, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

### Prediction Limit Intrawell Parametric

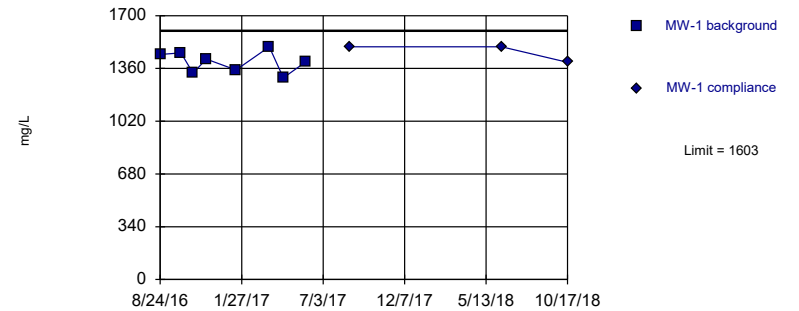


Background Data Summary: Mean=6.763, Std. Dev.=0.2559, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8892, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

### Prediction Limit Intrawell Parametric

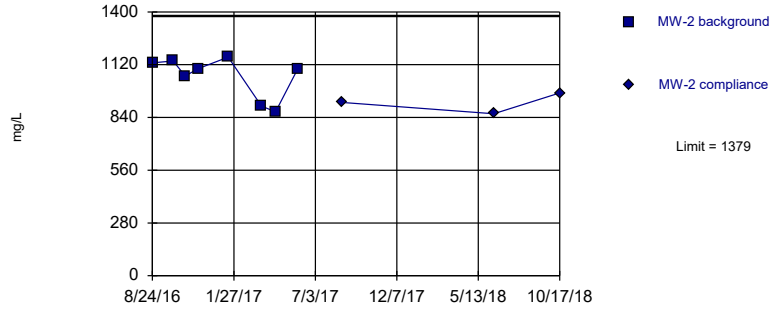


Background Data Summary: Mean=1401, Std. Dev.=69.58, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9638, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

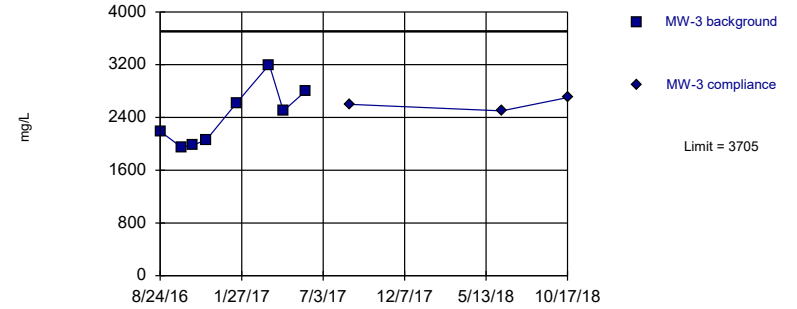


Background Data Summary: Mean=1058, Std. Dev.=110.9, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8068, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

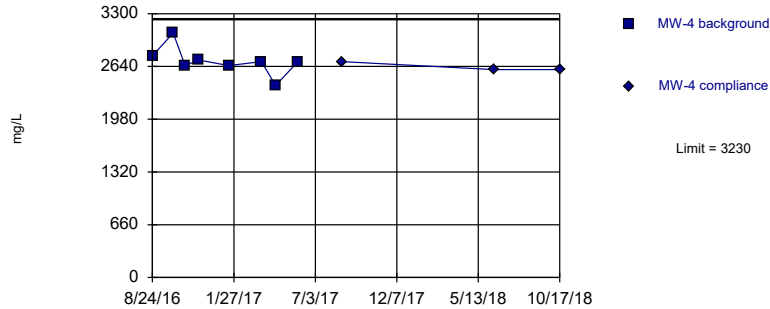


Background Data Summary: Mean=2413, Std. Dev.=446.5, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9164, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit  
Intrawell Parametric

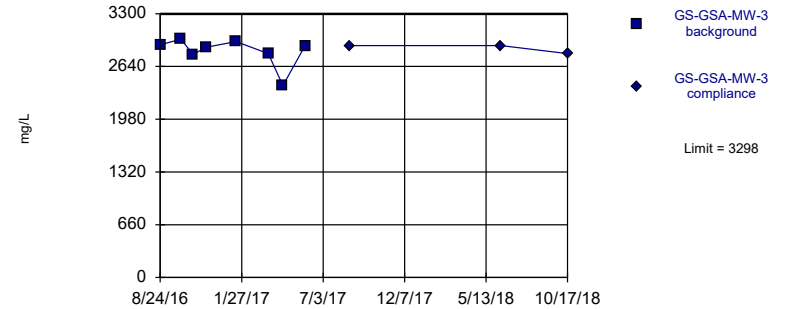


Background Data Summary: Mean=2706, Std. Dev.=181.1, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8805, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

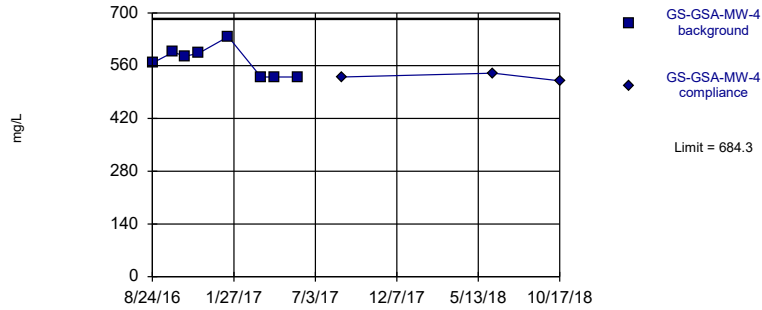
Prediction Limit  
Intrawell Parametric



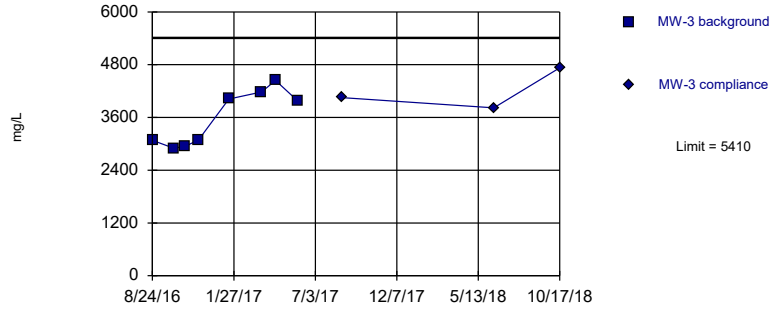
Background Data Summary (based on square transformation): Mean=8017438, Std. Dev.=987774, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7712, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit Prediction Limit  
Intrawell Parametric

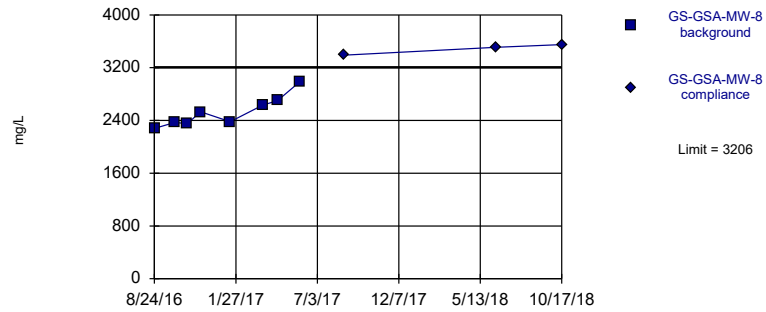


Within Limit Prediction Limit  
Intrawell Parametric



Exceeds Limit

### Prediction Limit Intrawell Parametric



Background Data Summary: Mean=2528, Std. Dev.=234.3, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8999, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 1/9/2019 12:43 PM View: PLs - Intrawell  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

# Trend Test - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/9/2019, 12:49 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>
Calcium (mg/L)	GS-GSA-MW-8	128	35	31	Yes	11	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MW-2 (bg)	0.6378	32	31	Yes	11	0	n/a	n/a	0.02	NP
Chloride (mg/L)	GS-GSA-MW-8	58.75	47	31	Yes	11	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-1 (bg)	0.04064	40	35	Yes	12	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-2 (bg)	0.06703	38	35	Yes	12	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-4 (bg)	0.06396	37	35	Yes	12	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	GS-GSA-MW-3	0.2475	51	35	Yes	12	0	n/a	n/a	0.02	NP
TDS (mg/L)	GS-GSA-MW-8	703.9	51	31	Yes	11	0	n/a	n/a	0.02	NP



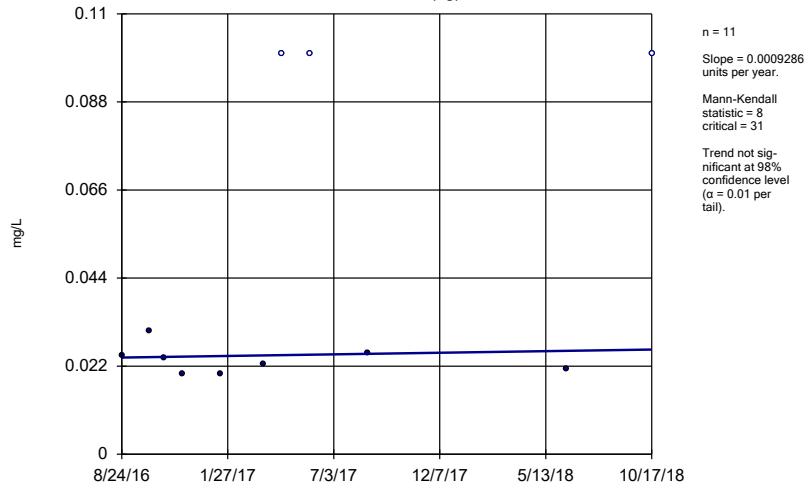
# Trend Test - All Results

Plant William C Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 1/9/2019, 12:49 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)	0.000...	8	31	No	11	27.27	n/a	n/a	0.02	NP
Boron (mg/L)	MW-2 (bg)	-0.00482	-7	-31	No	11	9.091	n/a	n/a	0.02	NP
Boron (mg/L)	MW-3 (bg)	0.002998	8	31	No	11	18.18	n/a	n/a	0.02	NP
Boron (mg/L)	MW-4 (bg)	-0.00...	-11	-31	No	11	9.091	n/a	n/a	0.02	NP
Boron (mg/L)	GS-GSA-MW-3	1.468	29	31	No	11	0	n/a	n/a	0.02	NP
Boron (mg/L)	GS-GSA-MW-4	-0.4961	-19	-31	No	11	0	n/a	n/a	0.02	NP
Boron (mg/L)	GS-GSA-MW-8	0.05449	31	31	No	11	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MW-1 (bg)	15.7	27	31	No	11	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MW-2 (bg)	-2.958	-7	-31	No	11	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MW-3 (bg)	53.36	28	31	No	11	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MW-4 (bg)	4.506	3	31	No	11	0	n/a	n/a	0.02	NP
Calcium (mg/L)	GS-GSA-MW-3	-7.178	-3	-31	No	11	0	n/a	n/a	0.02	NP
<b>Calcium (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>128</b>	<b>35</b>	<b>31</b>	<b>Yes</b>	<b>11</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MW-1 (bg)	0.1112	6	31	No	11	9.091	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.6378</b>	<b>32</b>	<b>31</b>	<b>Yes</b>	<b>11</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MW-3 (bg)	-0.03889	-1	-31	No	11	9.091	n/a	n/a	0.02	NP
Chloride (mg/L)	MW-4 (bg)	-0.3873	-14	-31	No	11	9.091	n/a	n/a	0.02	NP
Chloride (mg/L)	GS-GSA-MW-3	49.55	23	31	No	11	0	n/a	n/a	0.02	NP
Chloride (mg/L)	GS-GSA-MW-4	-14.72	-23	-31	No	11	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>58.75</b>	<b>47</b>	<b>31</b>	<b>Yes</b>	<b>11</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Fluoride (mg/L)</b>	<b>MW-1 (bg)</b>	<b>0.04064</b>	<b>40</b>	<b>35</b>	<b>Yes</b>	<b>12</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Fluoride (mg/L)</b>	<b>MW-2 (bg)</b>	<b>0.06703</b>	<b>38</b>	<b>35</b>	<b>Yes</b>	<b>12</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Fluoride (mg/L)	MW-3 (bg)	0.1401	31	35	No	12	0	n/a	n/a	0.02	NP
<b>Fluoride (mg/L)</b>	<b>MW-4 (bg)</b>	<b>0.06396</b>	<b>37</b>	<b>35</b>	<b>Yes</b>	<b>12</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Fluoride (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>0.2475</b>	<b>51</b>	<b>35</b>	<b>Yes</b>	<b>12</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
TDS (mg/L)	MW-1 (bg)	154	31	31	No	11	0	n/a	n/a	0.02	NP
TDS (mg/L)	MW-2 (bg)	-94.44	-14	-31	No	11	0	n/a	n/a	0.02	NP
TDS (mg/L)	MW-3 (bg)	899	31	31	No	11	0	n/a	n/a	0.02	NP
TDS (mg/L)	MW-4 (bg)	-65.07	-8	-31	No	11	0	n/a	n/a	0.02	NP
<b>TDS (mg/L)</b>	<b>GS-GSA-MW-8</b>	<b>703.9</b>	<b>51</b>	<b>31</b>	<b>Yes</b>	<b>11</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>

### Sen's Slope Estimator

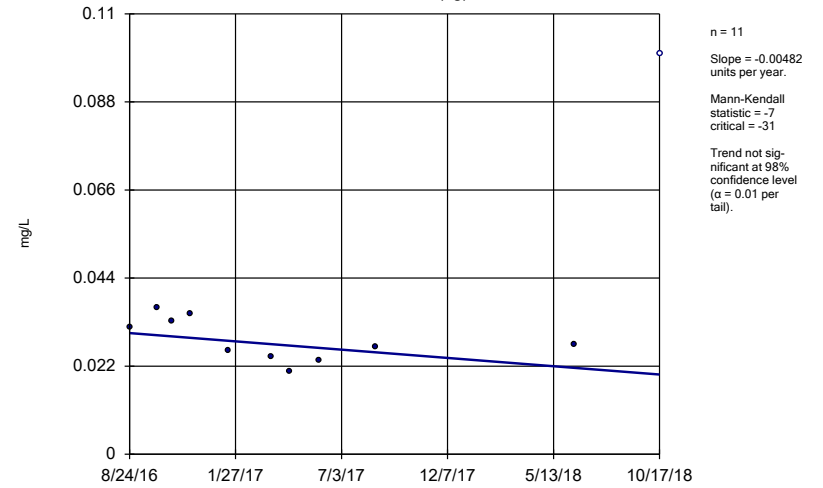
MW-1 (bg)



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

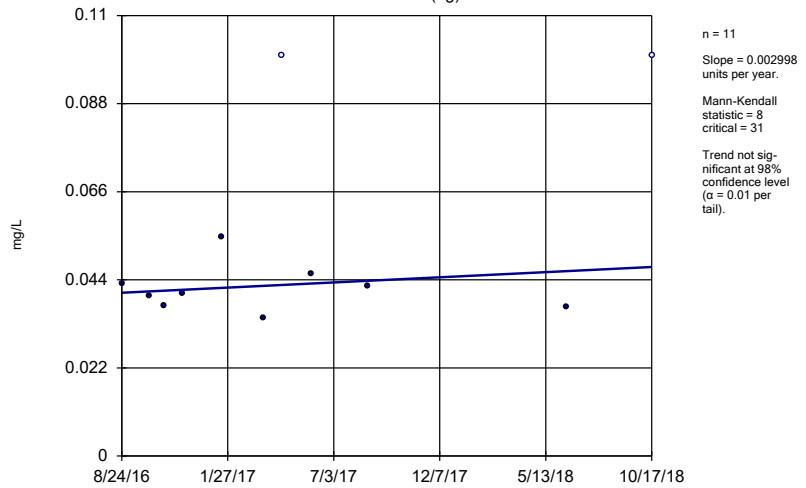
MW-2 (bg)



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

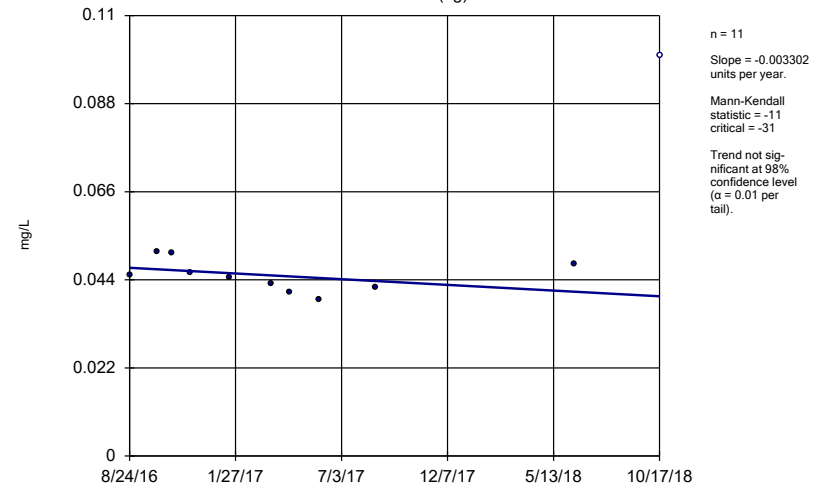
MW-3 (bg)



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

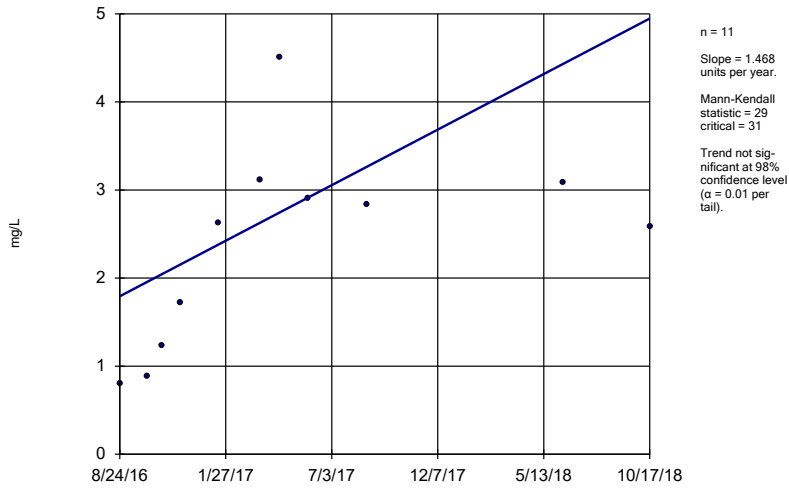
MW-4 (bg)



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

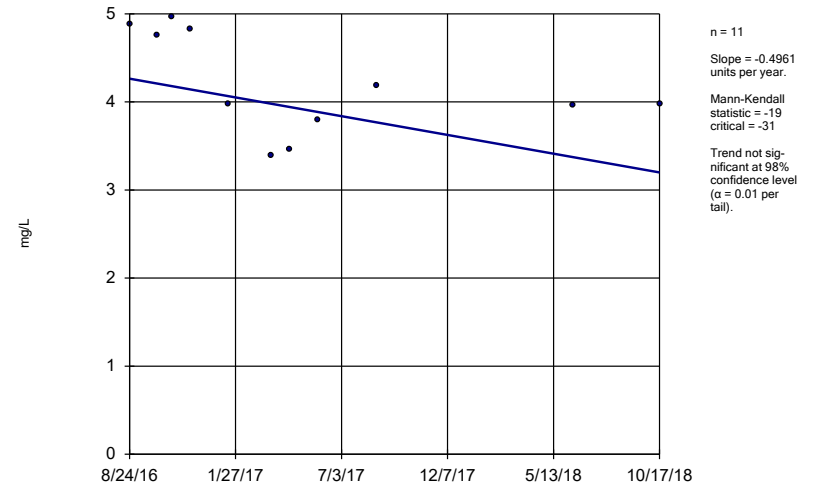
GS-GSA-MW-3



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

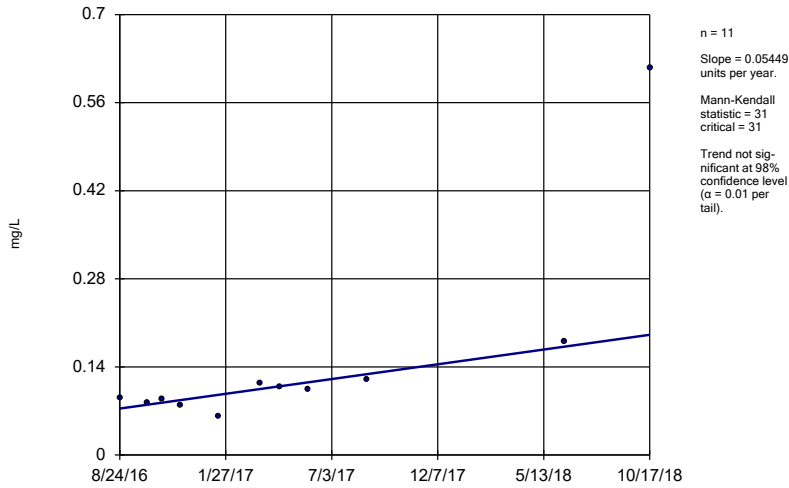
GS-GSA-MW-4



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

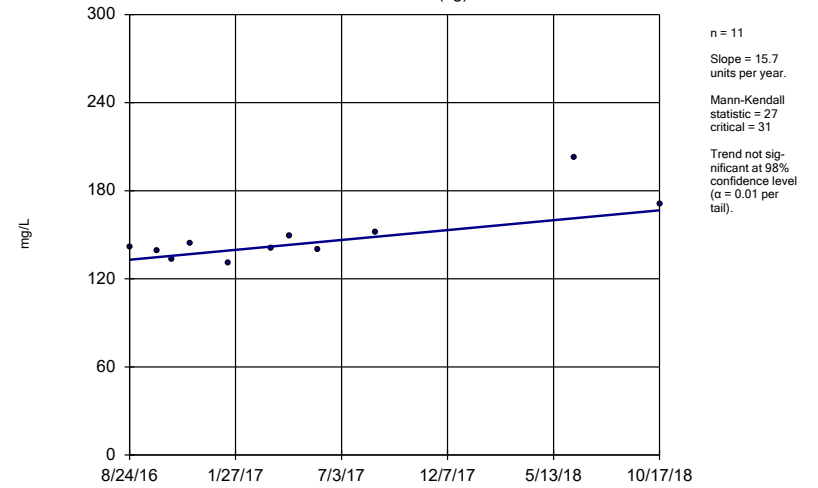
GS-GSA-MW-8



Constituent: Boron Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

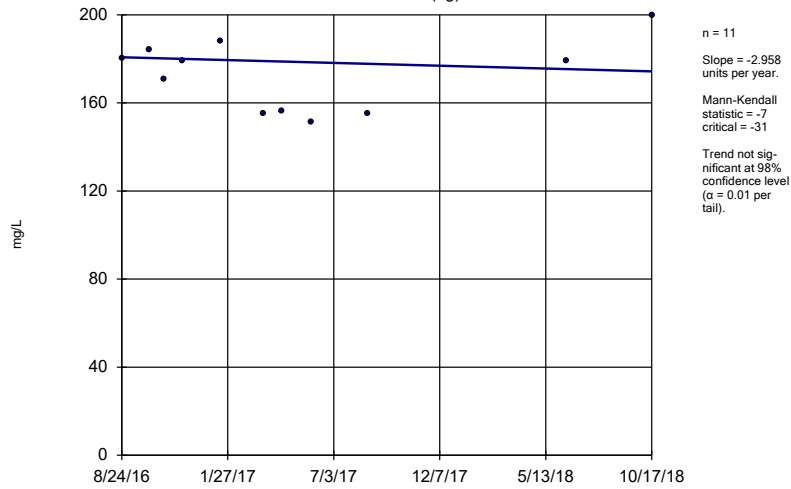
MW-1 (bg)



Constituent: Calcium Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

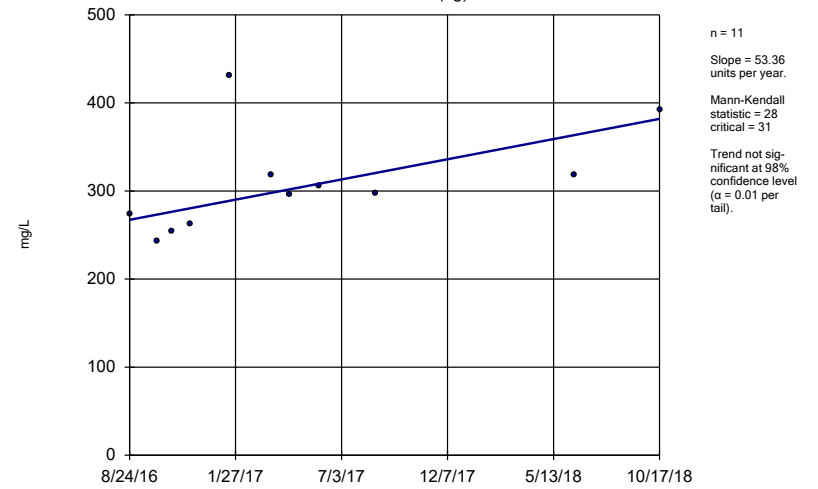
MW-2 (bg)



Constituent: Calcium Analysis Run 1/9/2019 12:48 PM View: Trends  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

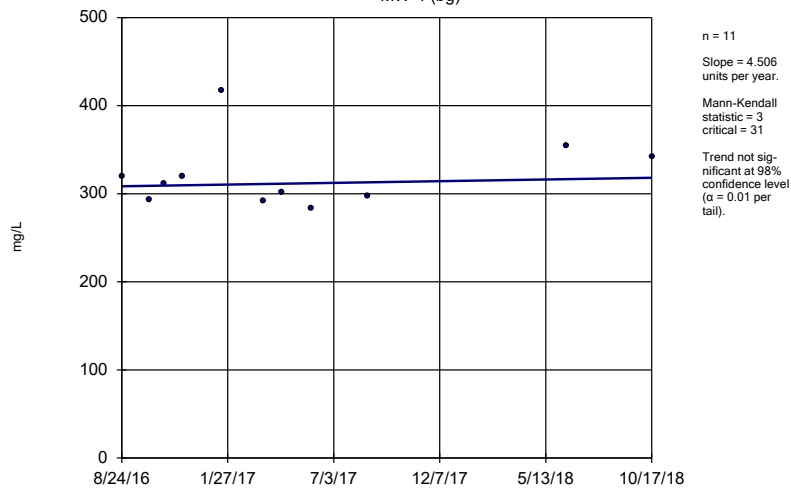
MW-3 (bg)



Constituent: Calcium Analysis Run 1/9/2019 12:48 PM View: Trends  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

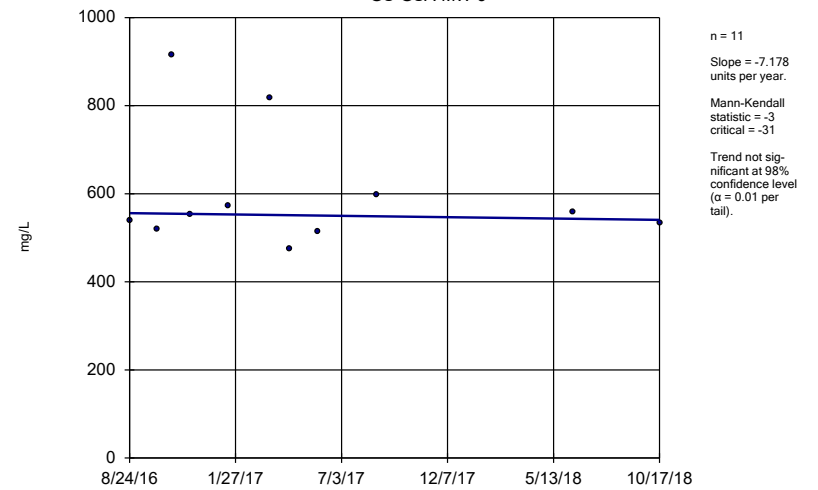
MW-4 (bg)



Constituent: Calcium Analysis Run 1/9/2019 12:48 PM View: Trends  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

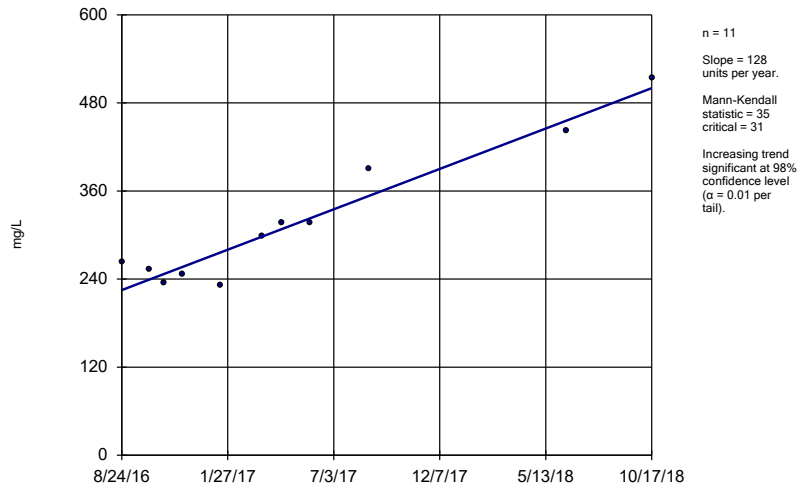
GS-GSA-MW-3



Constituent: Calcium Analysis Run 1/9/2019 12:48 PM View: Trends  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

GS-GSA-MW-8

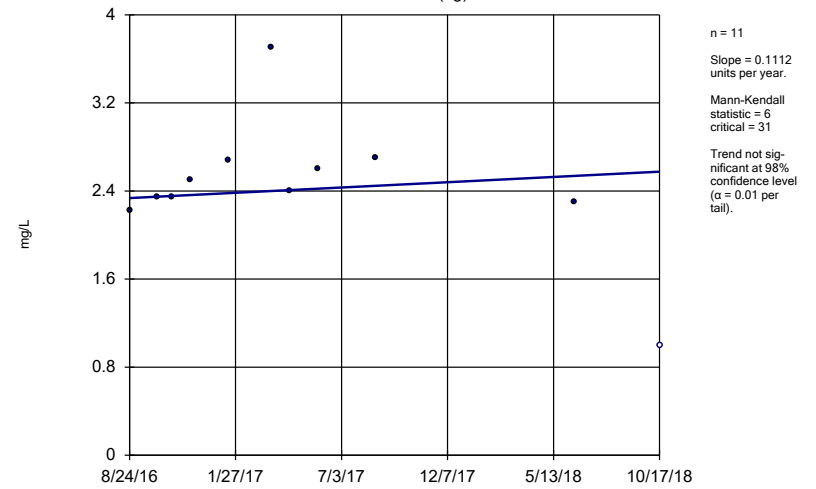


Constituent: Calcium Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

### Sen's Slope Estimator

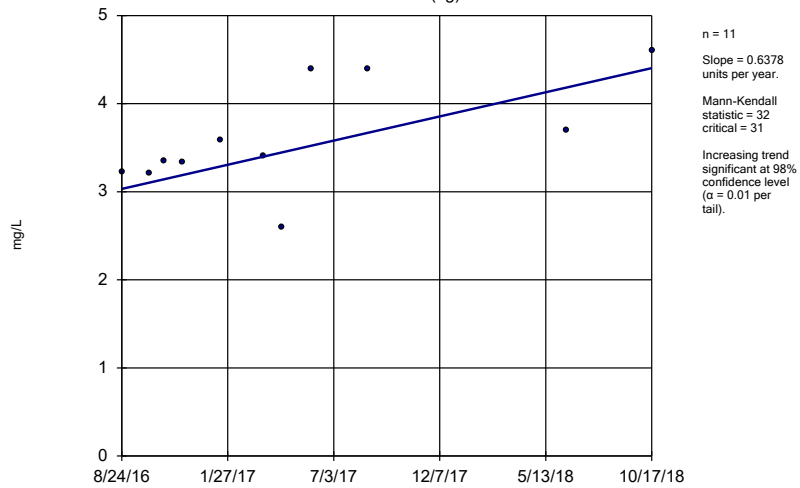
MW-1 (bg)



Constituent: Chloride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

MW-2 (bg)

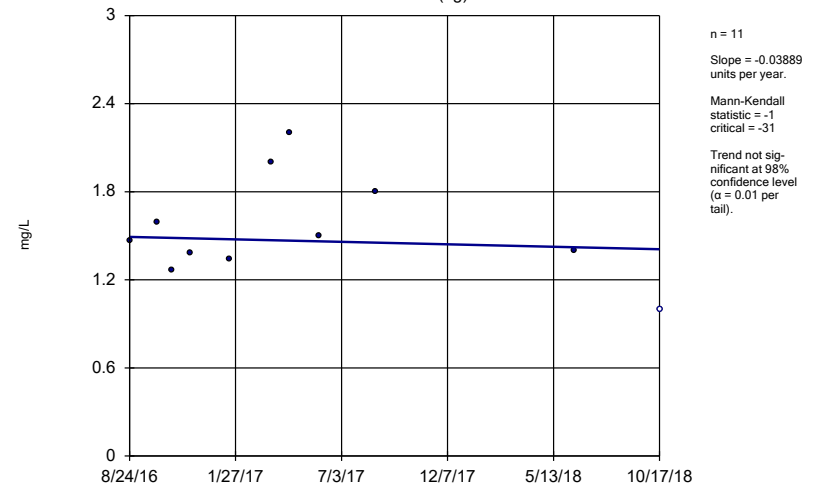


Constituent: Chloride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Hollow symbols indicate censored values.

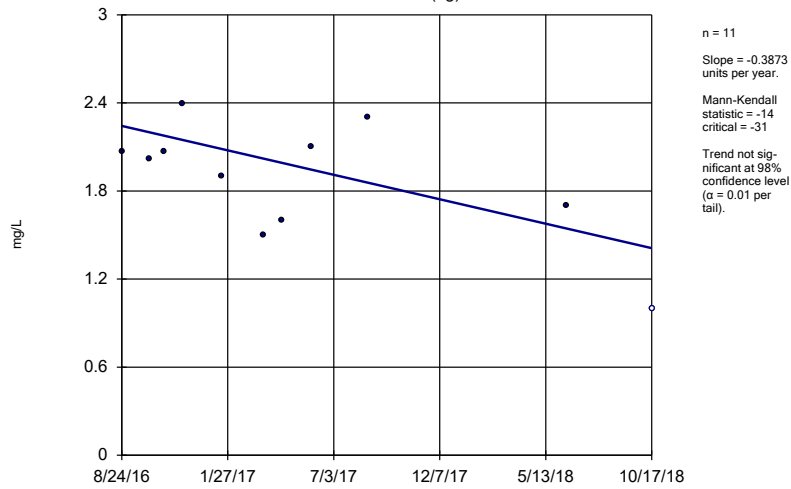
### Sen's Slope Estimator

MW-3 (bg)



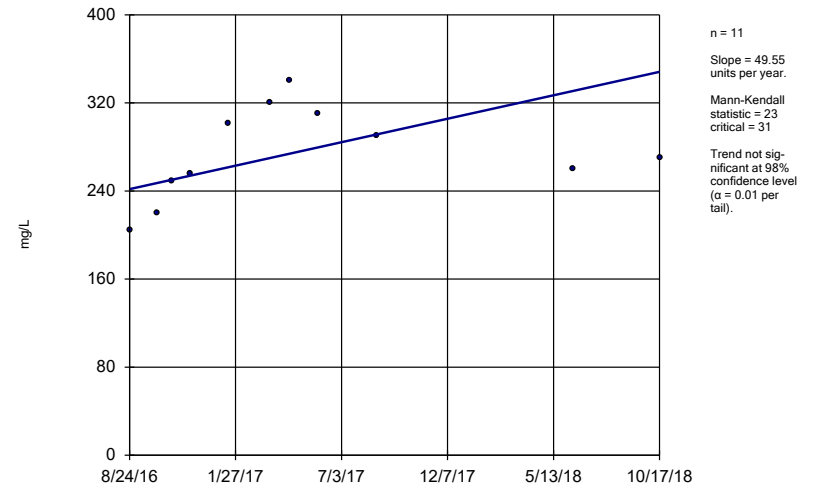
Constituent: Chloride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
MW-4 (bg)



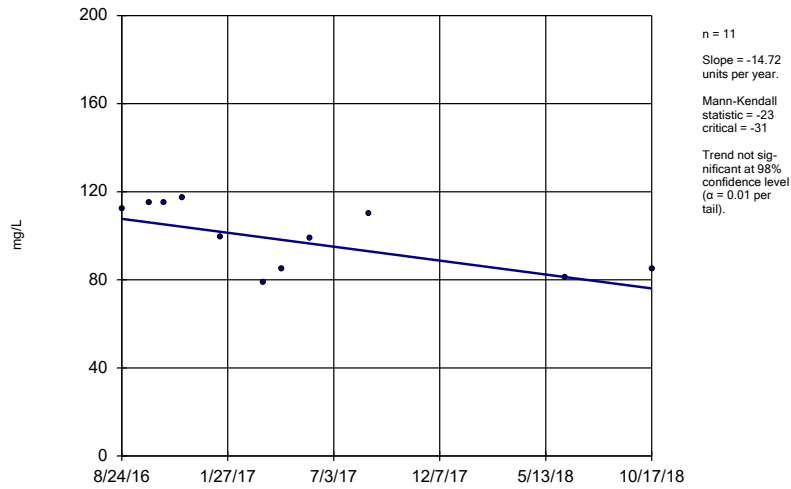
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-3



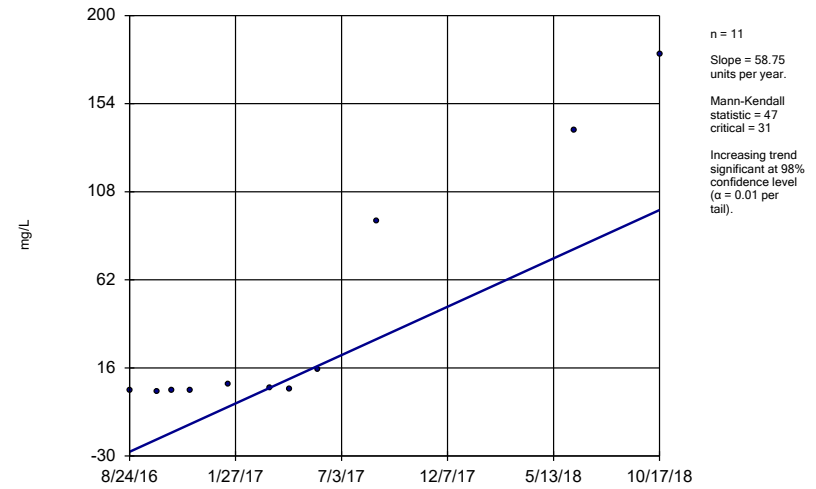
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator  
GS-GSA-MW-4



Constituent: Chloride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

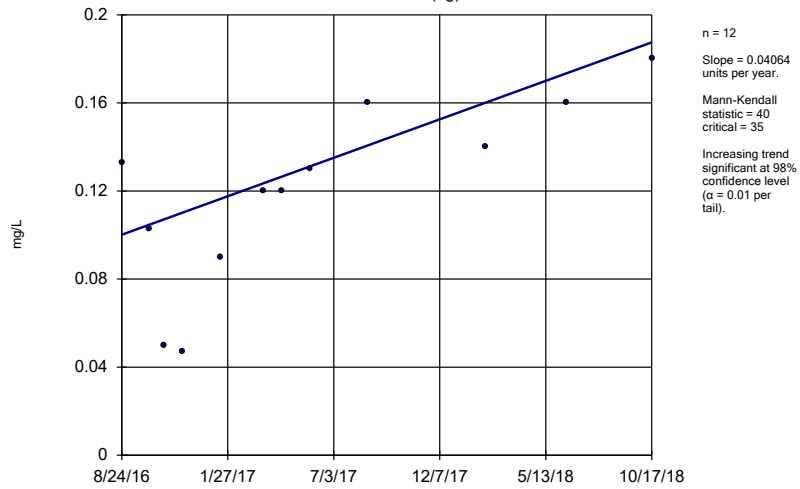
Sen's Slope Estimator  
GS-GSA-MW-8



Constituent: Chloride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

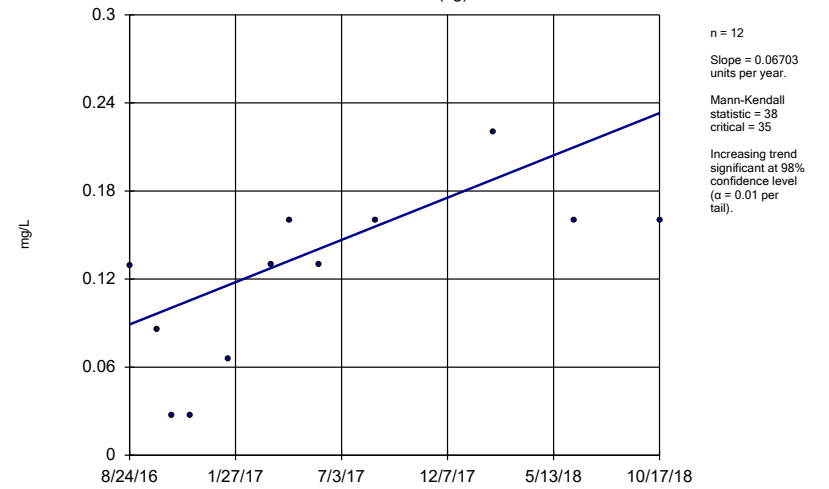
MW-1 (bg)



Constituent: Fluoride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

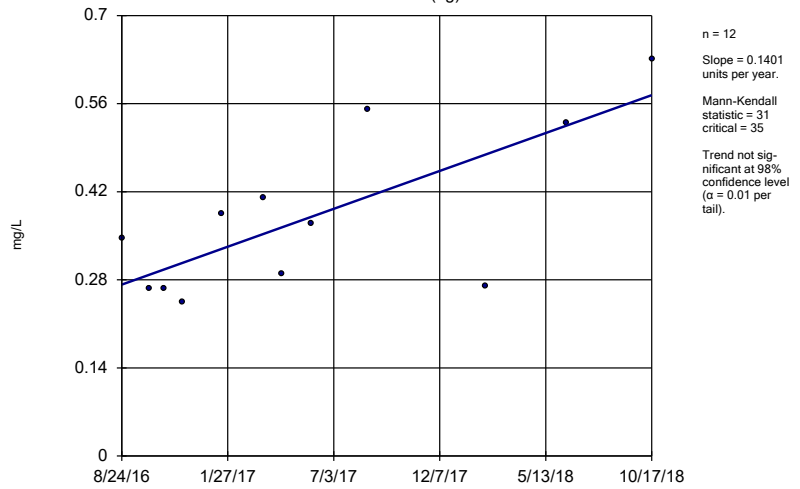
MW-2 (bg)



Constituent: Fluoride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator

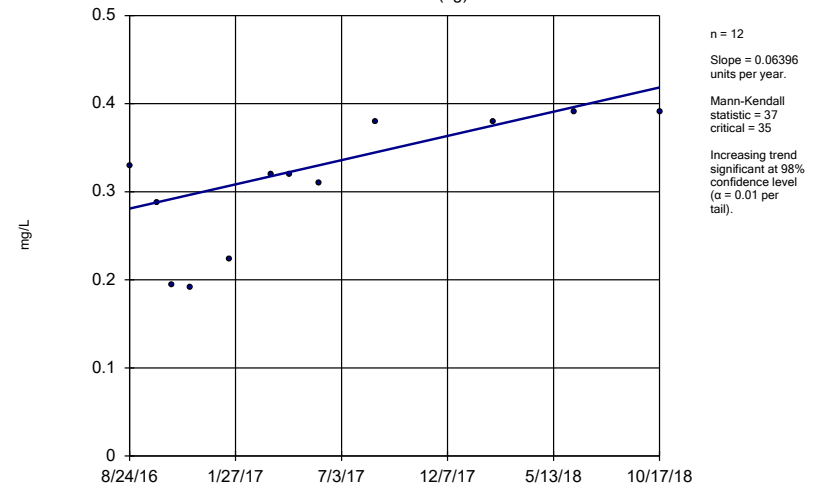
MW-3 (bg)



Constituent: Fluoride Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

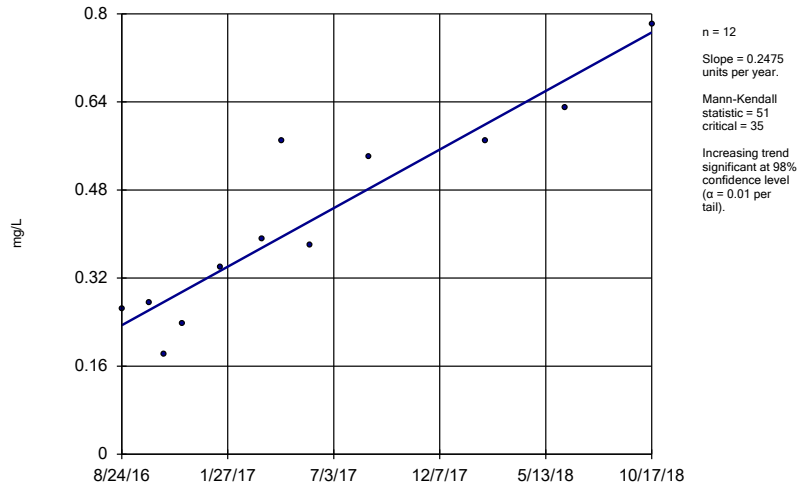
### Sen's Slope Estimator

MW-4 (bg)



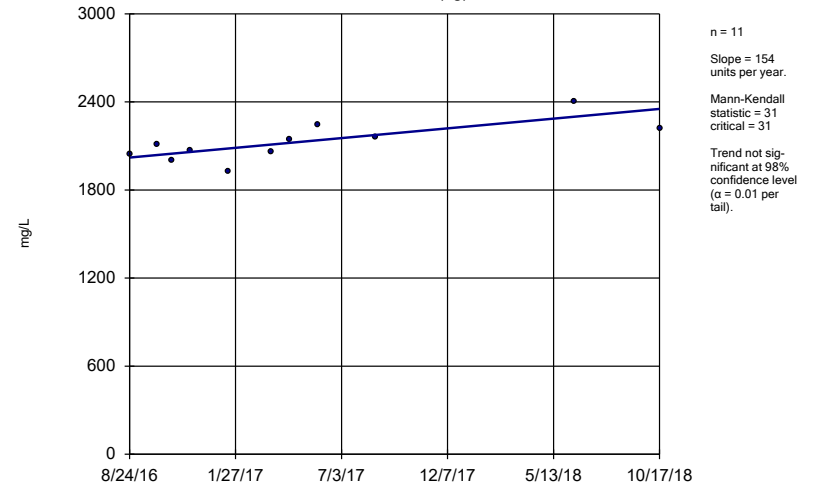
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator GS-GSA-MW-3



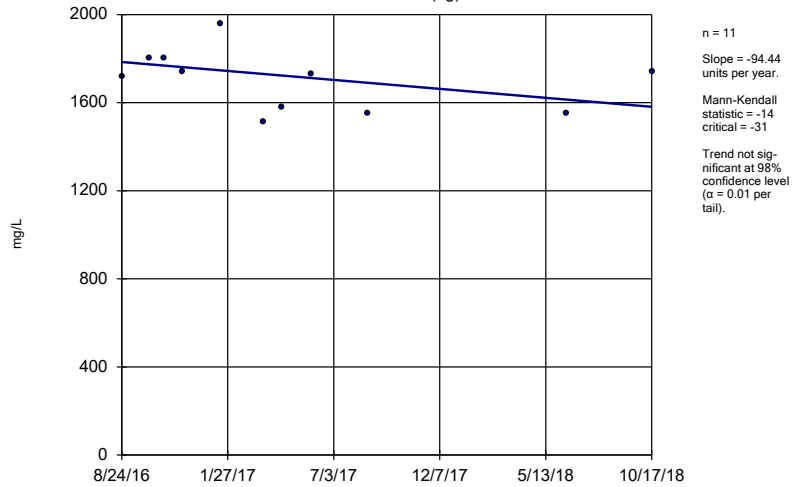
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-1 (bg)



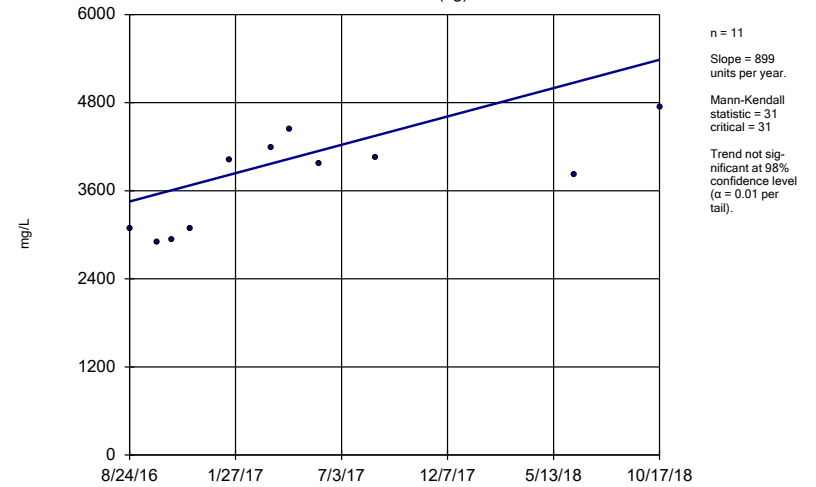
Constituent: TDS Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-2 (bg)



Constituent: TDS Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Sen's Slope Estimator MW-3 (bg)

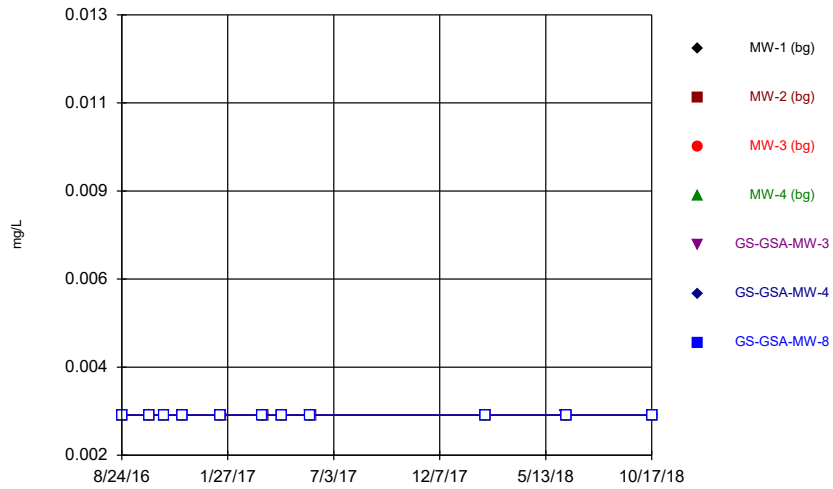


Constituent: TDS Analysis Run 1/9/2019 12:48 PM View: Trends  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA



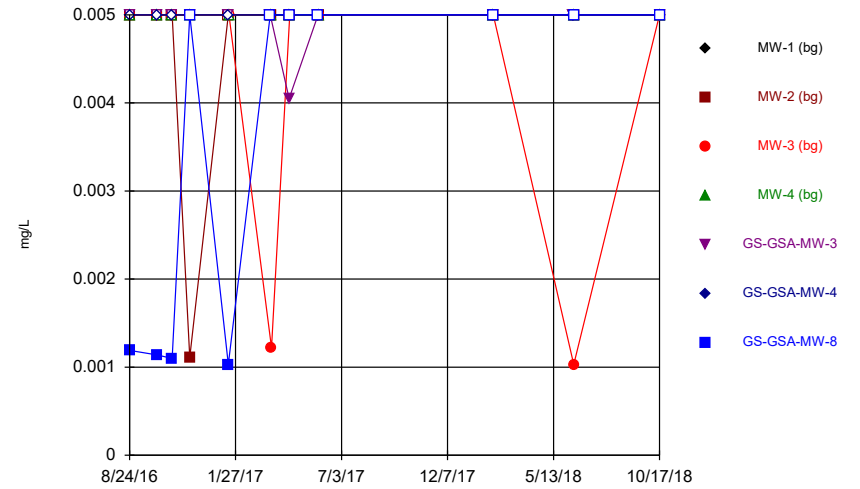


Time Series



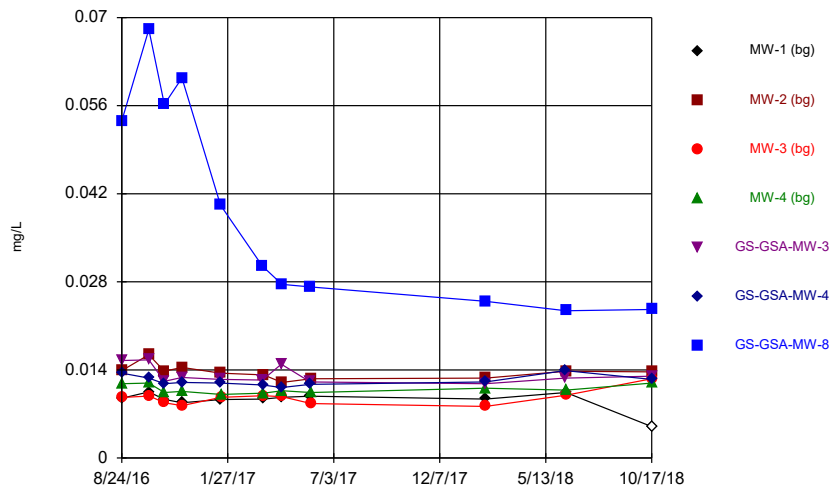
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



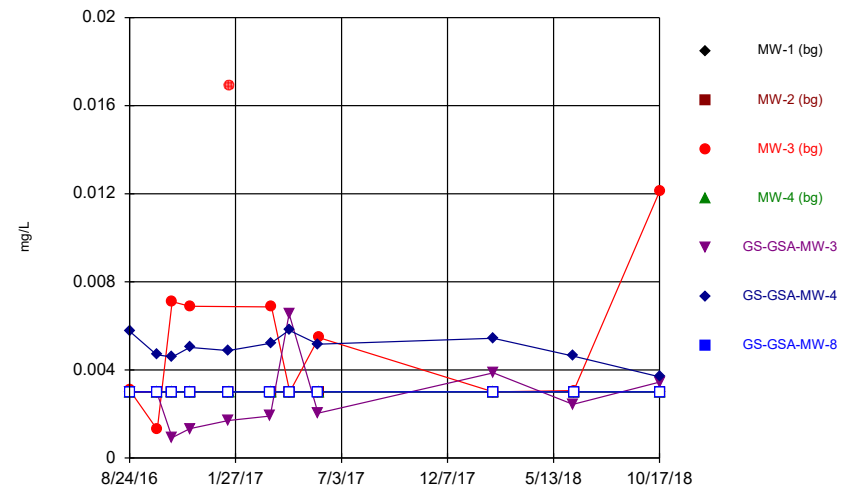
Constituent: Arsenic Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



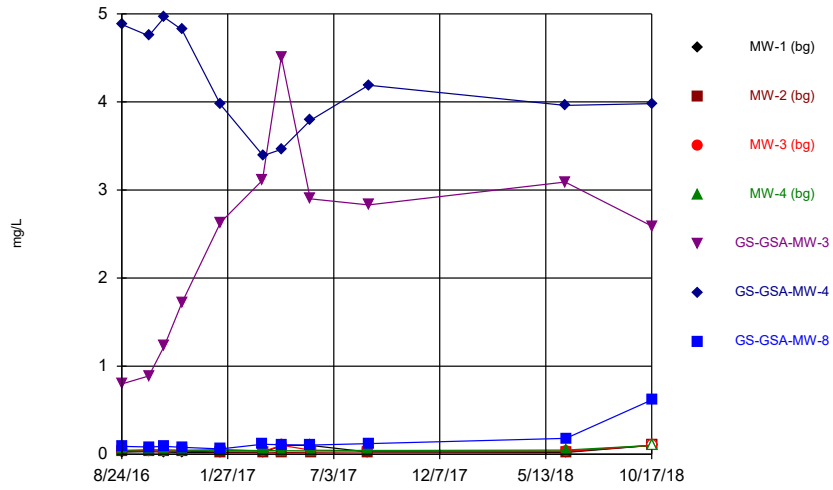
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



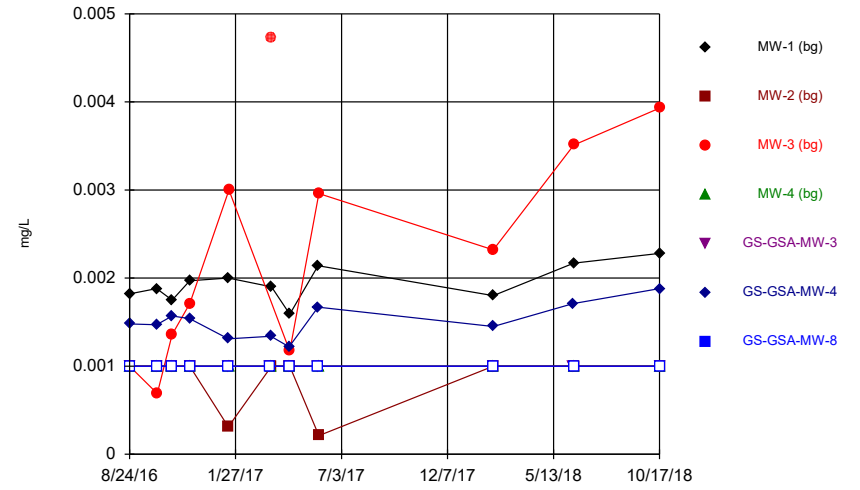
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



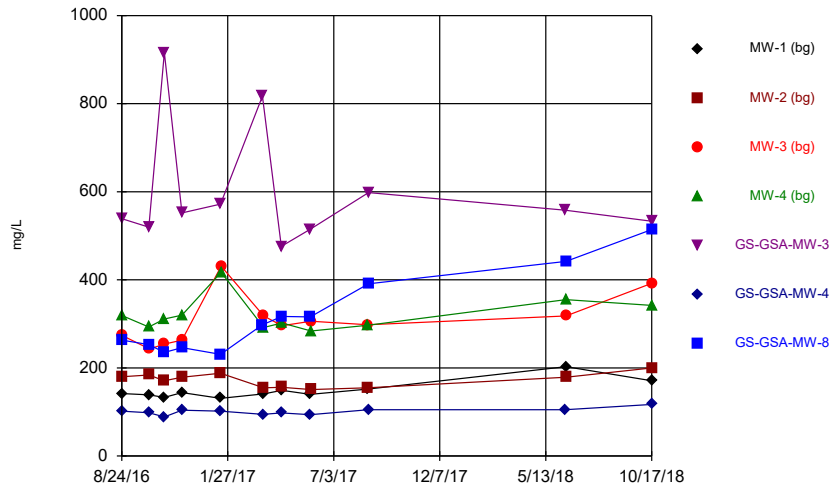
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



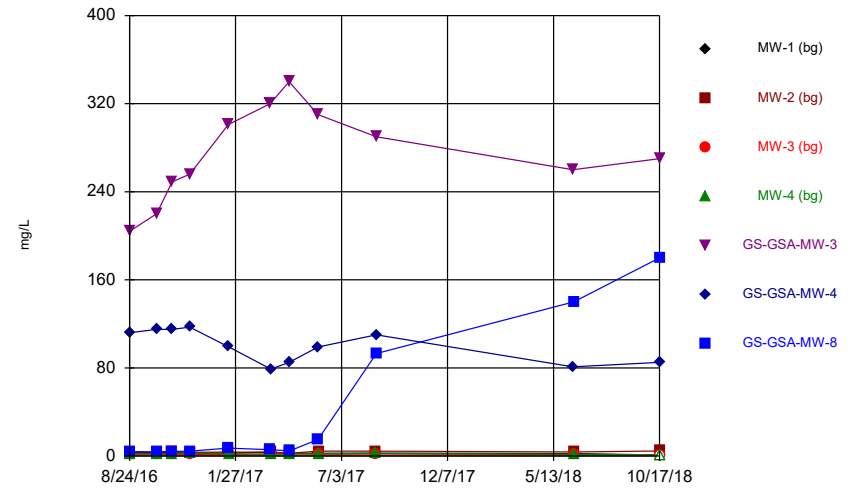
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



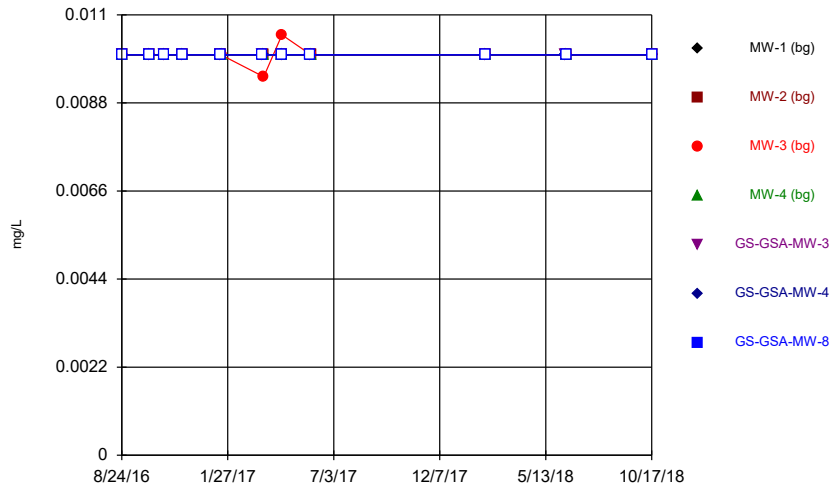
Constituent: Calcium Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



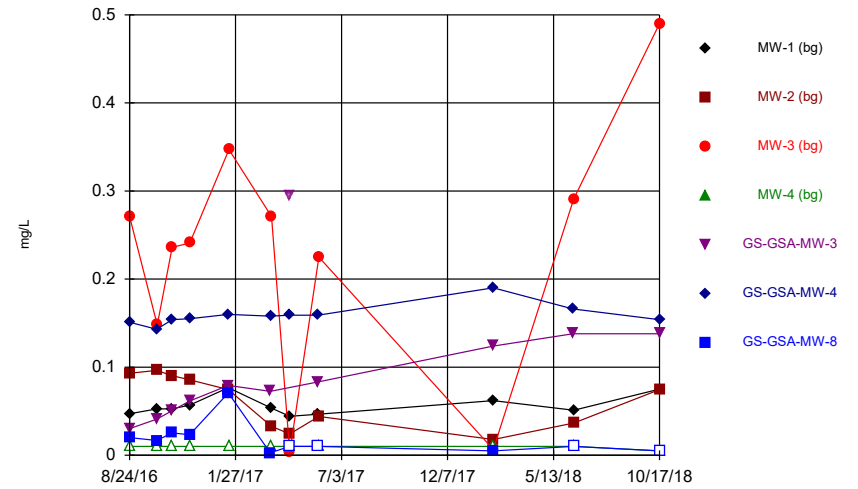
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



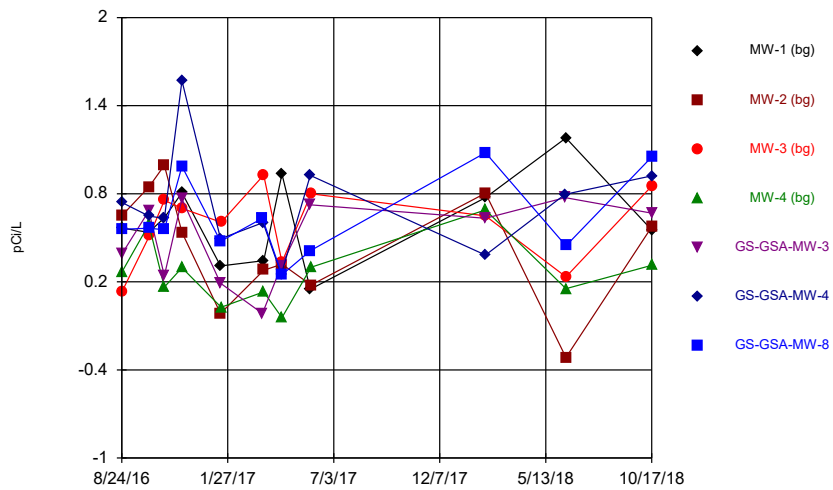
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



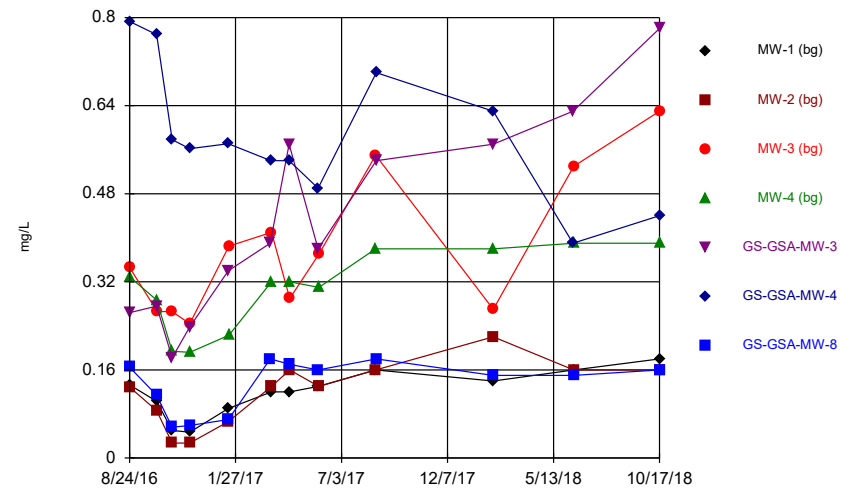
Constituent: Cobalt Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



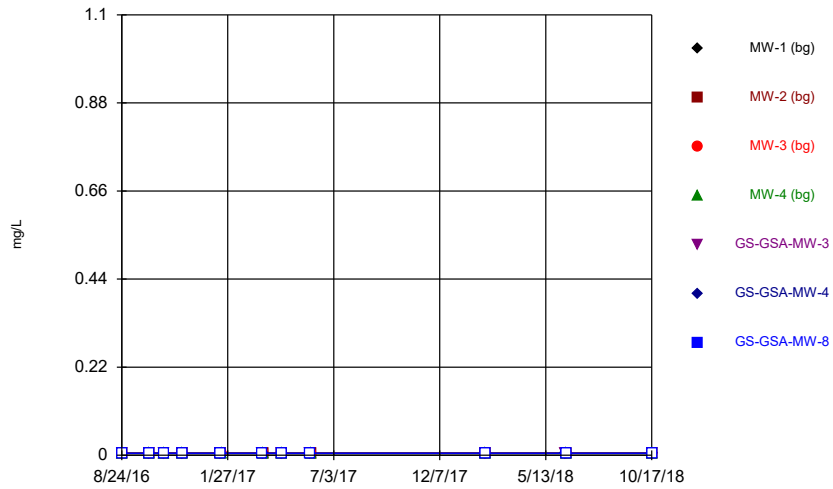
Constituent: Combined Radium 226 + 228 Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



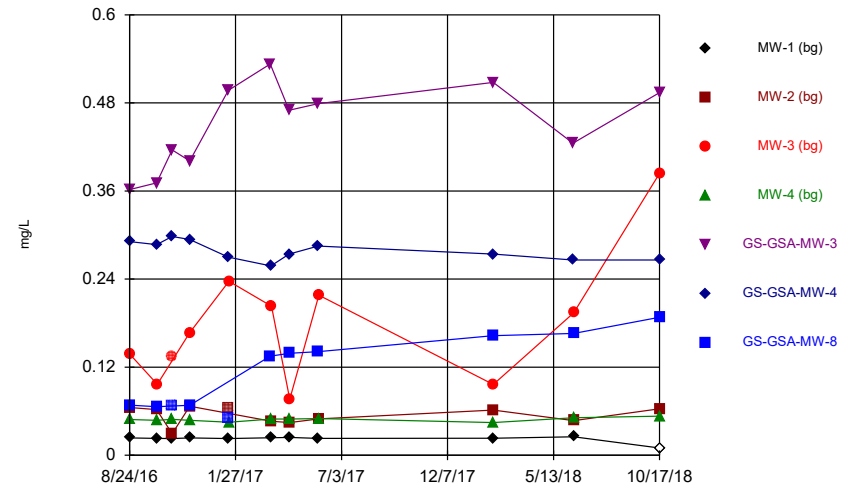
Constituent: Fluoride Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



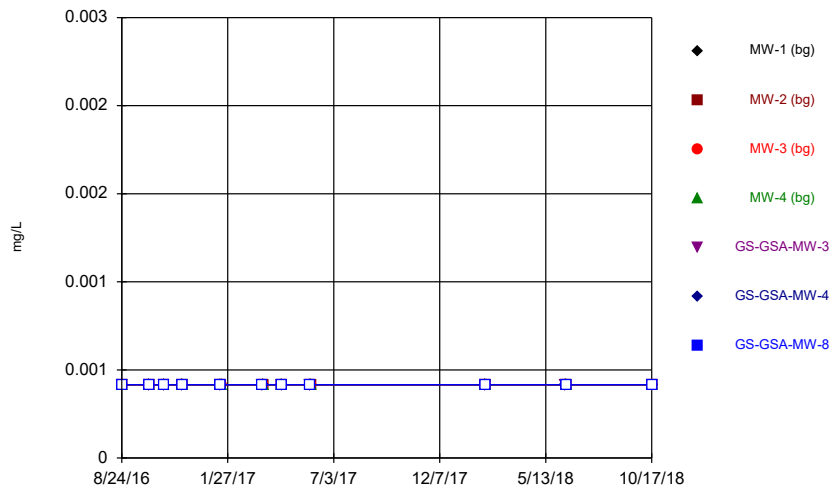
Constituent: Lead Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



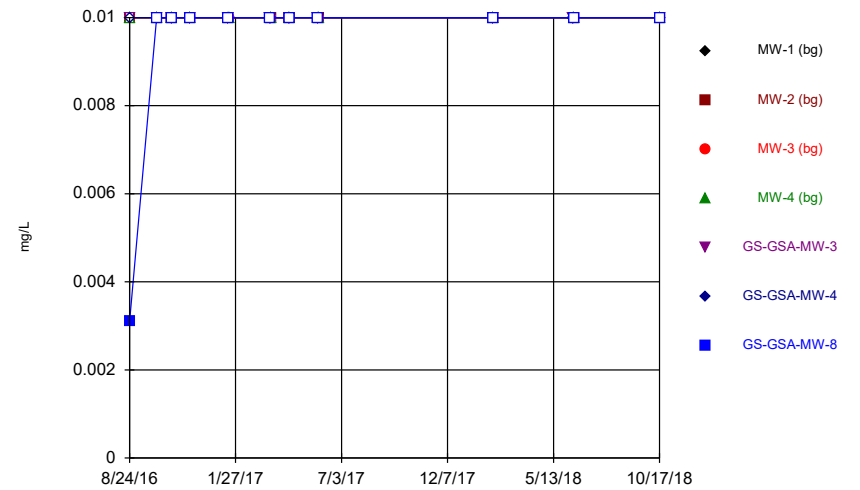
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



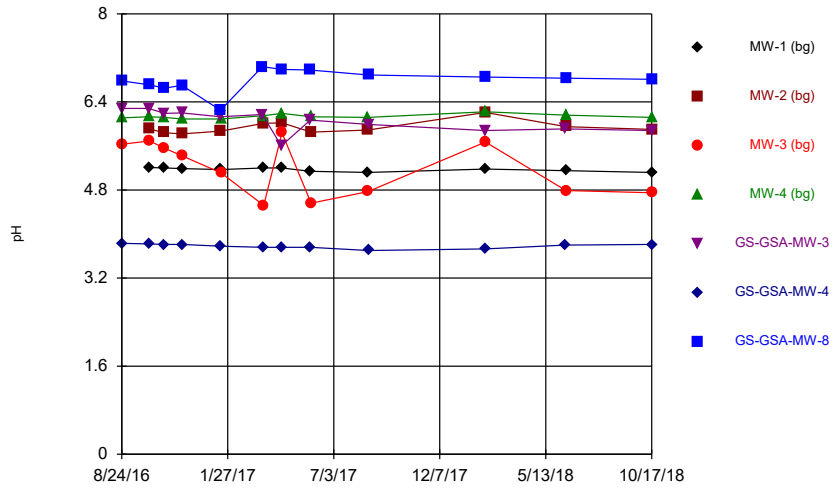
Constituent: Mercury Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



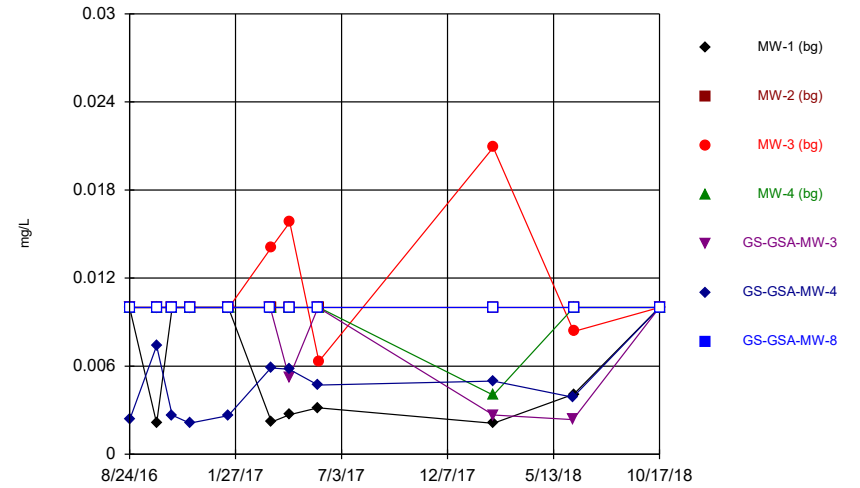
Constituent: Molybdenum Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



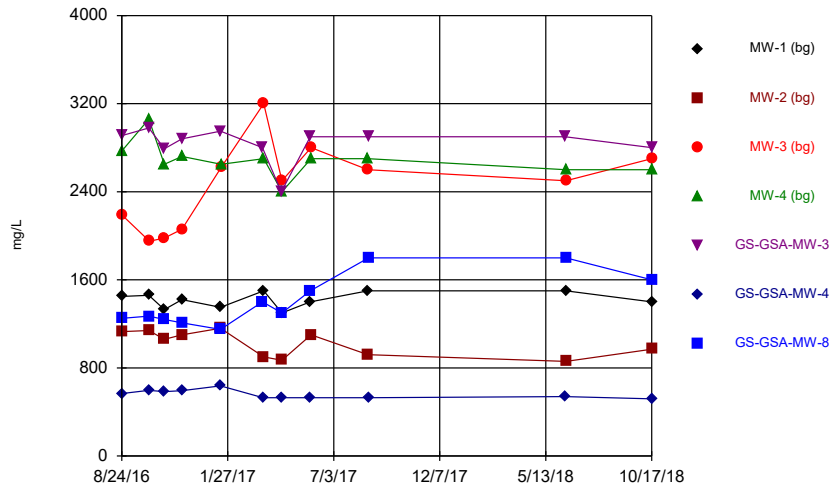
Constituent: pH Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



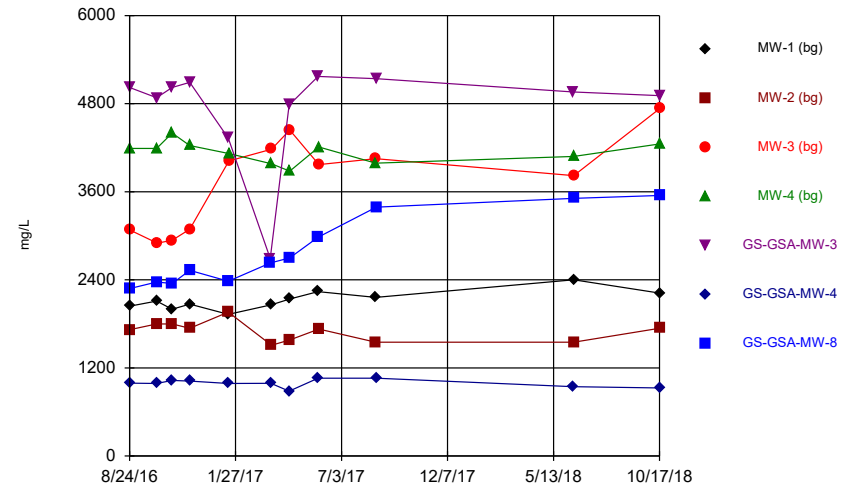
Constituent: Selenium Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



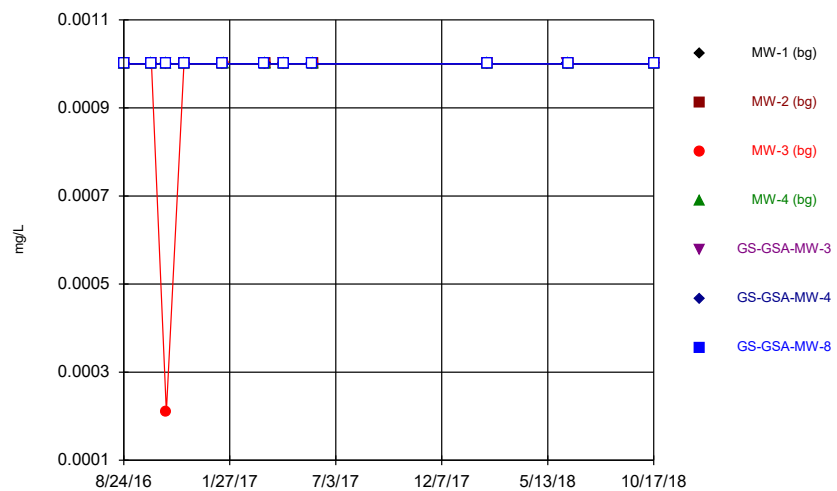
Constituent: Sulfate Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



Constituent: TDS Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Time Series



Constituent: Thallium Analysis Run 1/9/2019 12:51 PM View: Time Series - All Data  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

# Upper Tolerance Limits - App IV

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/10/2019, 6:06 AM

<u>Constituent</u>	<u>Upper Lim.</u>	<u>Bq N</u>	<u>Bq 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)	0.003	44	n/a	n/a	100	n/a	n/a	0.1047	NP Inter(NDs)
Arsenic (mg/L)	0.005	44	n/a	n/a	93.18	n/a	n/a	0.1047	NP Inter(NDs)
Barium (mg/L)	0.01521	44	0.01083	0.002089	2.273	None	No	0.05	Inter
Beryllium (mg/L)	0.0071	42	n/a	n/a	83.33	n/a	n/a	0.116	NP Inter(NDs)
Boron (mg/L)	0.1	44	n/a	n/a	15.91	n/a	n/a	0.1047	NP Inter(normal...)
Cadmium (mg/L)	0.00393	43	n/a	n/a	48.84	n/a	n/a	0.1102	NP Inter(normal...)
Chromium (mg/L)	0.0105	44	n/a	n/a	95.45	n/a	n/a	0.1047	NP Inter(NDs)
Cobalt (mg/L)	0.49	44	n/a	n/a	25	n/a	n/a	0.1047	NP Inter(normal...)
Combined Radium 226 + 228 (pCi/L)	1.156	44	0.4779	0.3229	0	None	No	0.05	Inter
Fluoride (mg/L)	0.5245	48	0.2325	0.1407	0	None	No	0.05	Inter
Lead (mg/L)	0.005	44	n/a	n/a	100	n/a	n/a	0.1047	NP Inter(NDs)
Lithium (mg/L)	0.2764	42	-2.931	0.7786	2.381	None	ln(x)	0.05	Inter
Mercury (mg/L)	0.0005	44	n/a	n/a	100	n/a	n/a	0.1047	NP Inter(NDs)
Molybdenum (mg/L)	0.01	44	n/a	n/a	100	n/a	n/a	0.1047	NP Inter(NDs)
Selenium (mg/L)	0.0209	44	n/a	n/a	72.73	n/a	n/a	0.1047	NP Inter(normal...)
Thallium (mg/L)	0.001	44	n/a	n/a	97.73	n/a	n/a	0.1047	NP Inter(NDs)



# Confidence Intervals - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 1/31/2019, 11:55 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>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
<b>Lithium (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>0.499</b>	<b>0.4021</b>	<b>0.2764</b>	<b>Yes</b>	<b>11</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>

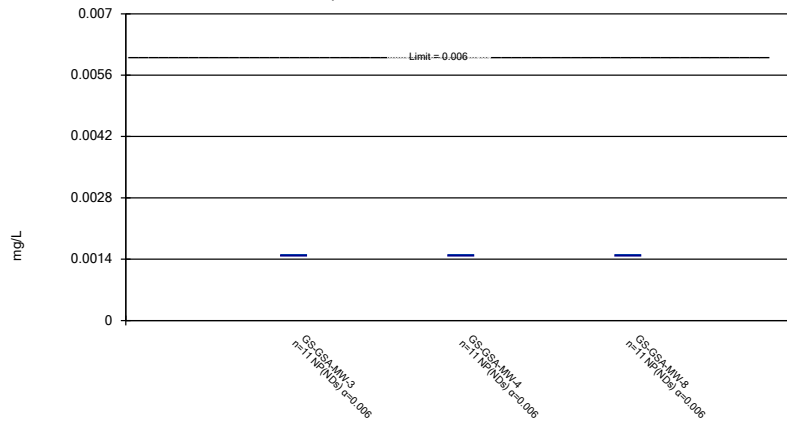
# Confidence Intervals - All Results

Plant William C Gorgas    Client: Southern Company    Data: Gorgas GSA    Printed 1/31/2019, 11:55 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GS-GSA-MW-3	0.0015	0.0015	0.006	No	11	100	No	0.006	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-4	0.0015	0.0015	0.006	No	11	100	No	0.006	NP (NDs)
Antimony (mg/L)	GS-GSA-MW-8	0.0015	0.0015	0.006	No	11	100	No	0.006	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-3	0.0025	0.0025	0.01	No	11	90.91	No	0.006	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-4	0.0025	0.0025	0.01	No	11	100	No	0.006	NP (NDs)
Arsenic (mg/L)	GS-GSA-MW-8	0.0025	0.00103	0.01	No	11	63.64	No	0.006	NP (normality)
Barium (mg/L)	GS-GSA-MW-3	0.0155	0.0118	2	No	11	0	No	0.006	NP (normality)
Barium (mg/L)	GS-GSA-MW-4	0.01295	0.01158	2	No	11	0	No	0.01	Param.
Barium (mg/L)	GS-GSA-MW-8	0.05268	0.02581	2	No	11	0	sqrt(x)	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-3	0.00387	0.000922	0.0071	No	11	18.18	No	0.006	NP (Cohens/xfrm)
Beryllium (mg/L)	GS-GSA-MW-4	0.00549	0.004488	0.0071	No	11	0	No	0.01	Param.
Beryllium (mg/L)	GS-GSA-MW-8	0.0015	0.0015	0.0071	No	11	100	No	0.006	NP (NDs)
Boron (mg/L)	GS-GSA-MW-3	3.327	1.454	4	No	11	0	No	0.01	Param.
Boron (mg/L)	GS-GSA-MW-4	4.671	3.72	4	No	11	0	No	0.01	Param.
Boron (mg/L)	GS-GSA-MW-8	0.181	0.0607	4	No	11	0	No	0.006	NP (normality)
Cadmium (mg/L)	GS-GSA-MW-3	0.0005	0.0005	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	GS-GSA-MW-4	0.001672	0.001353	0.005	No	11	0	No	0.01	Param.
Cadmium (mg/L)	GS-GSA-MW-8	0.0005	0.0005	0.005	No	11	100	No	0.006	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-3	0.005	0.005	0.1	No	11	100	No	0.006	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-4	0.005	0.005	0.1	No	11	100	No	0.006	NP (NDs)
Chromium (mg/L)	GS-GSA-MW-8	0.005	0.005	0.1	No	11	100	No	0.006	NP (NDs)
Cobalt (mg/L)	GS-GSA-MW-3	0.1169	0.04681	0.49	No	10	0	No	0.01	Param.
Cobalt (mg/L)	GS-GSA-MW-4	0.166	0.143	0.49	No	11	0	No	0.006	NP (normality)
Cobalt (mg/L)	GS-GSA-MW-8	0.0253	0.0025	0.49	No	11	36.36	No	0.006	NP (Cohens/xfrm)
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-3	0.7153	0.259	5	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-4	1.015	0.4327	5	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GS-GSA-MW-8	0.8688	0.4058	5	No	11	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-3	0.575	0.285	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-4	0.6798	0.4874	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	GS-GSA-MW-8	0.1692	0.115	4	No	12	0	x^3	0.01	Param.
Lead (mg/L)	GS-GSA-MW-3	0.0025	0.0025	0.015	No	11	100	No	0.006	NP (NDs)
Lead (mg/L)	GS-GSA-MW-4	0.0025	0.0025	0.015	No	11	100	No	0.006	NP (NDs)
Lead (mg/L)	GS-GSA-MW-8	0.0025	0.0025	0.015	No	11	100	No	0.006	NP (NDs)
<b>Lithium (mg/L)</b>	<b>GS-GSA-MW-3</b>	<b>0.499</b>	<b>0.4021</b>	<b>0.2764</b>	<b>Yes</b>	<b>11</b>	<b>0</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Lithium (mg/L)	GS-GSA-MW-4	0.2894	0.2675	0.2764	No	11	0	No	0.01	Param.
Lithium (mg/L)	GS-GSA-MW-8	0.1713	0.08085	0.2764	No	9	0	No	0.01	Param.
Mercury (mg/L)	GS-GSA-MW-3	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	GS-GSA-MW-4	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	GS-GSA-MW-8	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-3	0.005	0.005	0.1	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-4	0.005	0.005	0.1	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	GS-GSA-MW-8	0.005	0.0031	0.1	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	GS-GSA-MW-3	0.005	0.00236	0.05	No	11	72.73	No	0.006	NP (normality)
Selenium (mg/L)	GS-GSA-MW-4	0.005742	0.002873	0.05	No	11	9.091	No	0.01	Param.
Selenium (mg/L)	GS-GSA-MW-8	0.005	0.005	0.05	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	GS-GSA-MW-3	0.0005	0.0005	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	GS-GSA-MW-4	0.0005	0.0005	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	GS-GSA-MW-8	0.0005	0.0005	0.002	No	11	100	No	0.006	NP (NDs)

### Non-Parametric Confidence Interval

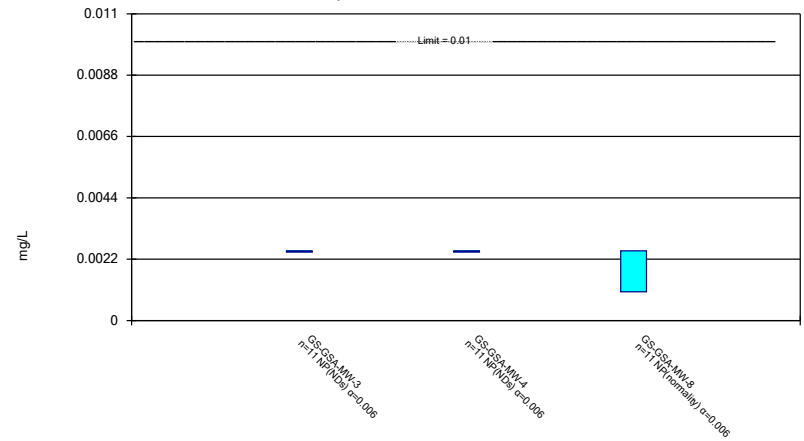
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

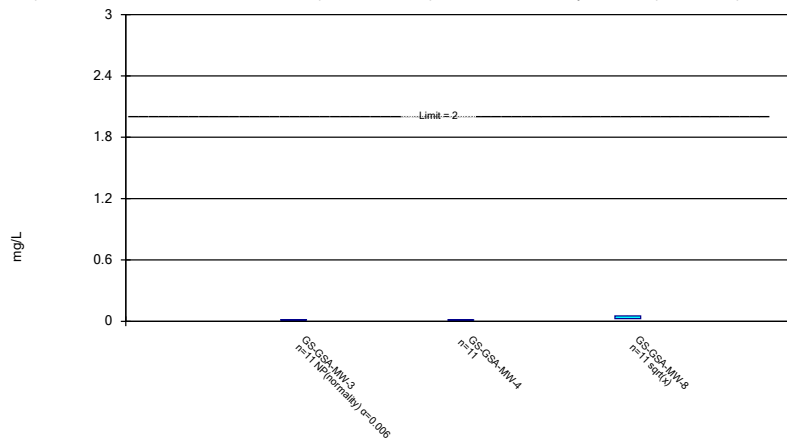
Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

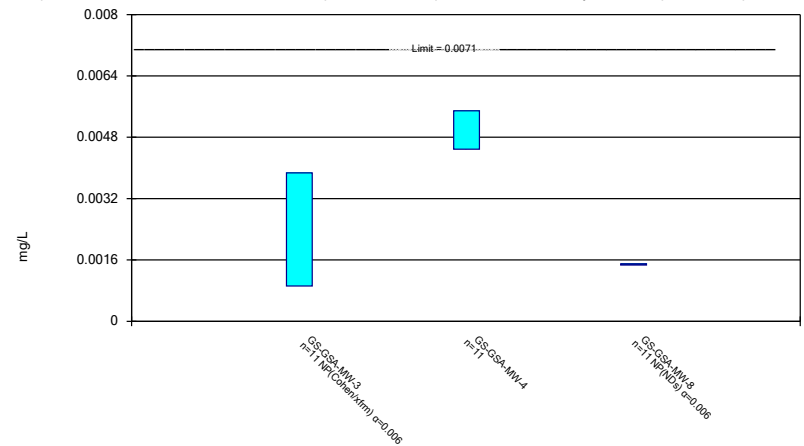
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

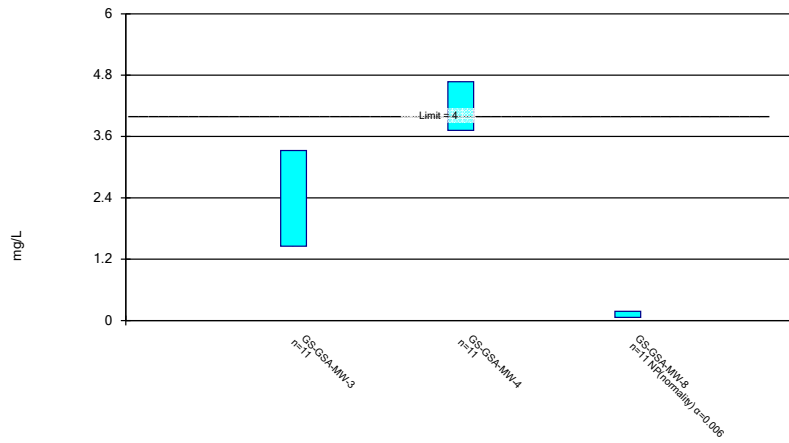
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

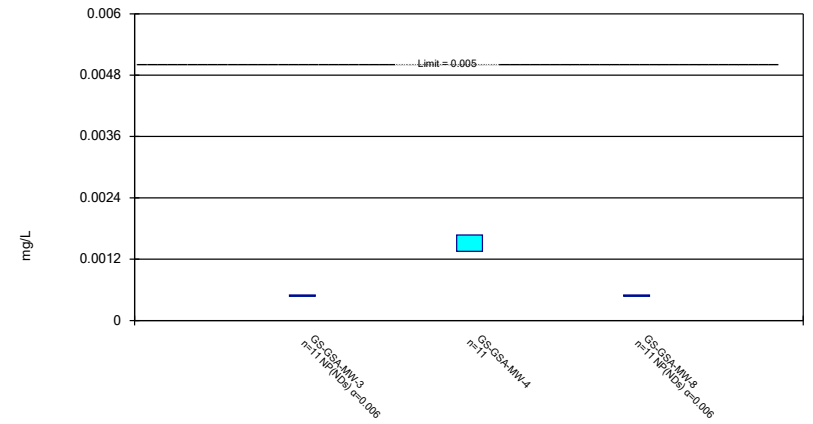
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Constituent: Boron Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

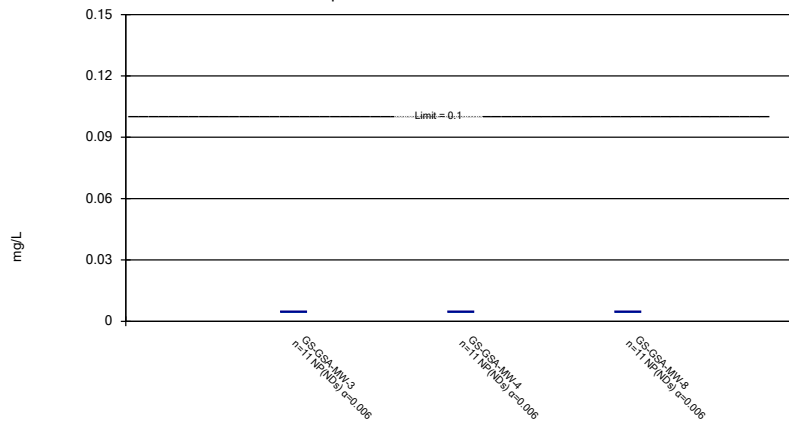
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

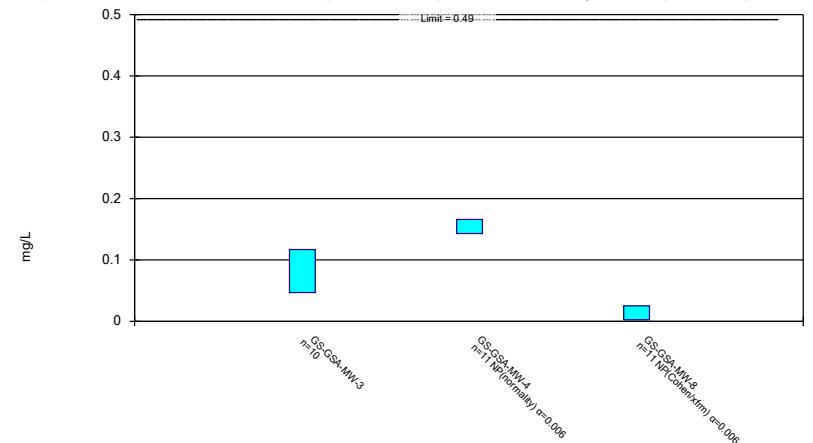
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

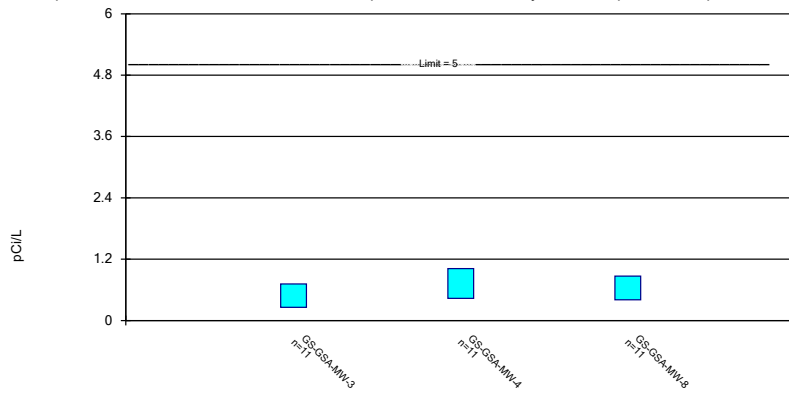
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

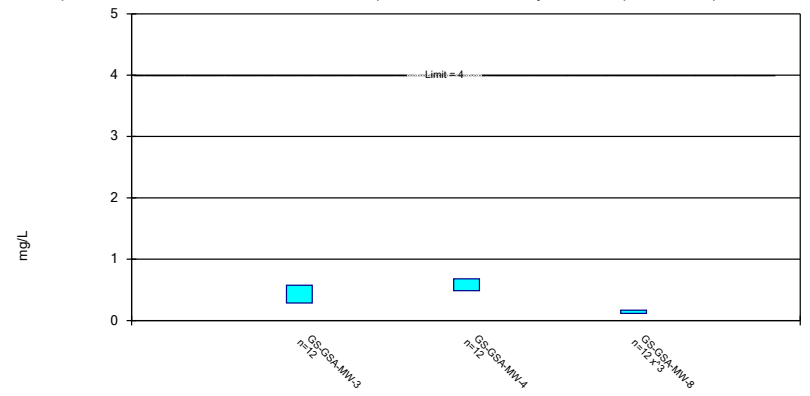
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

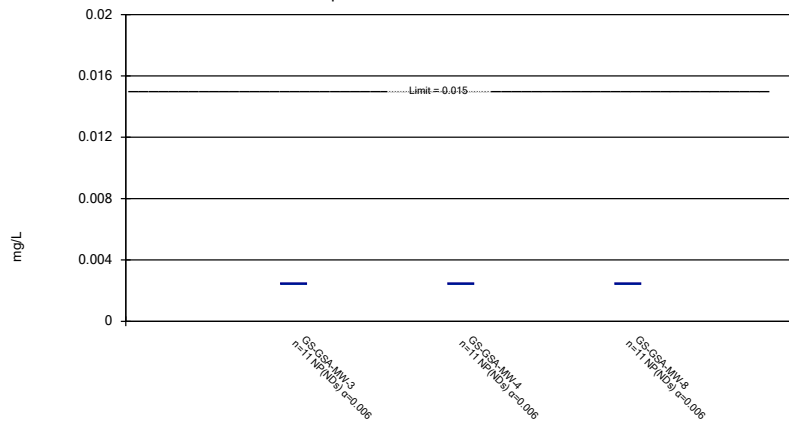
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

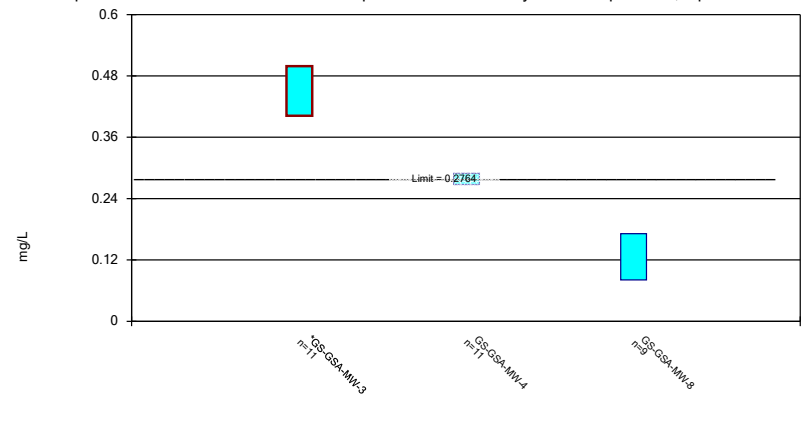
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric Confidence Interval

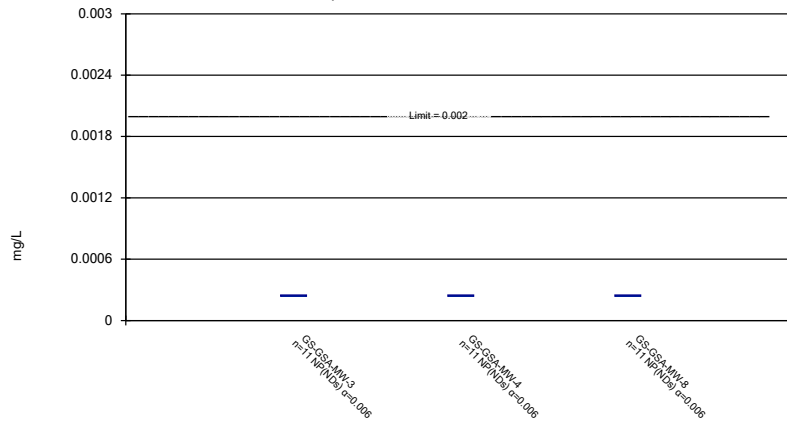
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

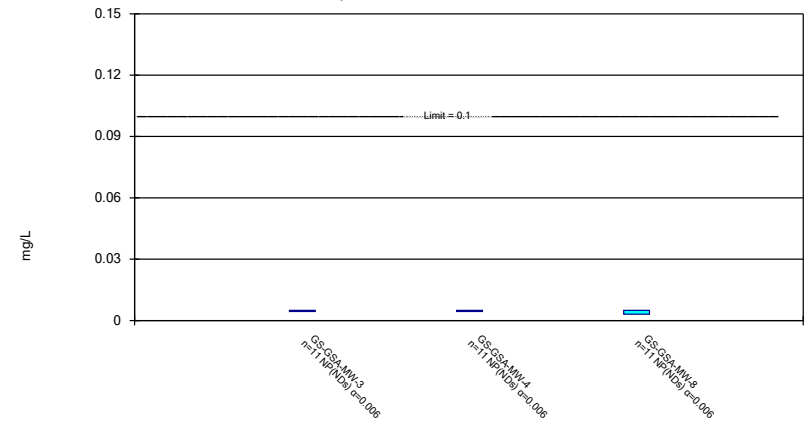
Compliance Limit is not exceeded.



Constituent: Mercury Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

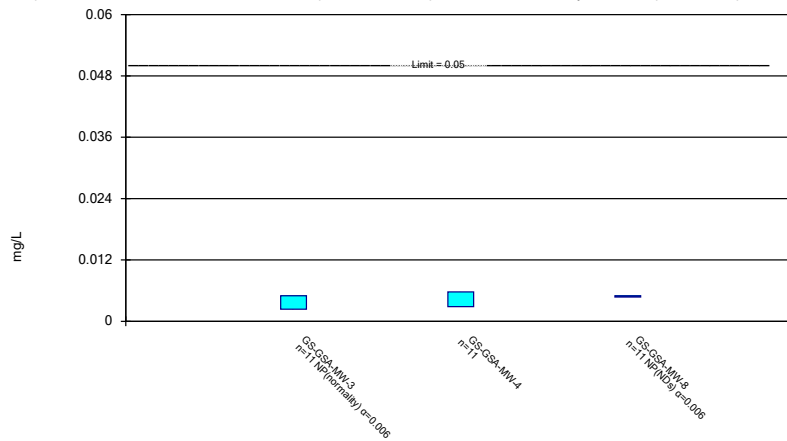
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Parametric and Non-Parametric (NP) Confidence Interval

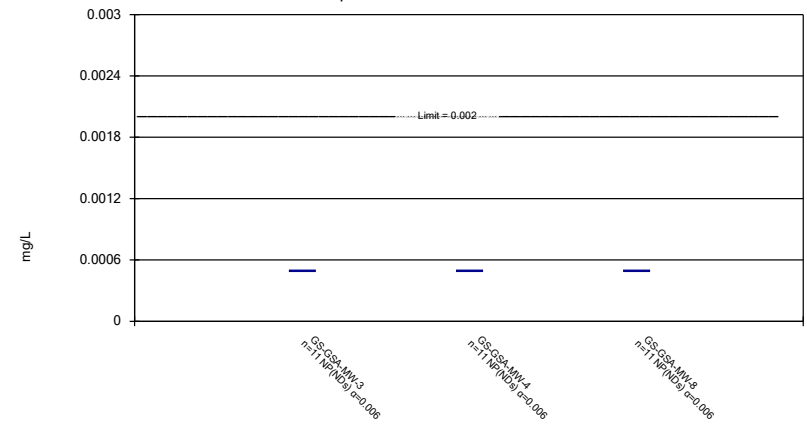
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 1/31/2019 11:53 AM View: Confidence Intervals  
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA