

**2017 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT**

**ALABAMA POWER COMPANY
PLANT GORGAS
GYPSUM POND**

January 31, 2018

Prepared for

Alabama Power Company
Birmingham, Alabama

By

Southern Company Services
Earth Science and Environmental Engineering



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ABBREVIATIONS

AL	Alabama
APC	Alabama Power Company
APCEL	Alabama Power Company Environmental Laboratory
ASTM	American Society for Testing Materials
BGS	below ground surface
CCR	coal combustion residuals
CFR	Code of Federal Regulations
COC	chain of custody
DO	dissolved oxygen
EPA	United States Environmental Protection Agency
ft	feet
GPM	gallons per minute
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
PE	Professional Engineer
PL	prediction limits
PQL	practical quantitation limit
PVC	polymerizing vinyl chloride
QA/QC	quality assurance/quality control
RL	reporting limit
RPD	relative percent difference
SSI	statistically significant increase
TAL	Test America Laboratories
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 (EPA) coal combustion residual (CCR) rule (40 CFR 257 Subpart D), this 2017 Annual Groundwater Monitoring and Corrective Action Report has been prepared to document 2017 groundwater monitoring activities at the Plant Gorgas Gypsum Pond and satisfies the requirements of §257.90(e). Semi-annual monitoring and reporting for Plant Gorgas Gypsum Pond is performed in accordance with the monitoring requirements §257.90 through §257.94.

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. The Gypsum Pond was constructed in 2007 and is approximately 18 acres in size.

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., 2005). Arsenic, antimony, molybdenum, selenium, copper, thallium, and mercury are elevated in Warrior Basin coal strata (Goldhaber et al., 2002).

3.4 Flow Interpretation

Groundwater flow at the site is a subdued replica of the natural topography where gravity is the dominant force driving flow. Groundwater flows from higher topographic elevations north of the 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.

4.0 GROUNDWATER MONITORING SYSTEM

Pursuant to §257.91, Plant Gorgas has installed a groundwater monitoring system to monitor groundwater within the uppermost aquifer. The PE-certified groundwater monitoring system for the Gypsum Pond is designed to monitor groundwater passing the waste boundary of the CCR unit within the uppermost aquifer. The monitoring system is designed to monitor water quality as groundwater flows laterally from north to south across the site. All groundwater monitoring wells were designed and constructed using “Design and Installation of Groundwater Monitoring Wells in Aquifers”, ASTM Subcommittee D18.21, as a guide.

4.1 Monitoring Wells

The groundwater monitoring network is comprised of 7 monitoring wells. As required by §257.90(e)(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.

4.1.1 Upgradient Wells

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.

4.1.2 Downgradient Wells

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.

Table 1. Groundwater Monitoring Network Details

Well Name	Installation Date	Northing	Easting	Ground Elevation (ft MSL)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft MSL)	Bottom of Screen Elevation (ft MSL)	Purpose
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.

5.0 GROUNDWATER MONITORING HISTORY

As required by §257.90(e), the following describes monitoring-related activities performed during the preceding year. Since this is the first Annual Groundwater Monitoring and Corrective Action Report, it also describes related activities performed prior to 2017.

5.1 Available Monitoring Data

In accordance with §257.94(b), the detection groundwater program was implemented by collecting 8 independent samples. Samples were collected from each background and downgradient well and analyzed for the constituents listed in Appendix III and IV. Background sampling was performed over the period from August 2016 to June 2017.

Following background monitoring, the initial detection monitoring event was completed by collecting an additional round of groundwater samples in August 2017. Groundwater samples were collected from each monitoring well and analyzed for Appendix III constituents according to §257.94(a). Analytical data from the background and initial groundwater monitoring events is included as **Appendix A, Groundwater Analytical Data**, in accordance with the requirements of §257.90(e)(3).

Table 2, Historical Well Sampling Summary, presents a summary of groundwater sampling events completed at the site for the preceding year, as well as background samples collected prior to 2017. Table 2 also identifies the purpose of the sampling event (i.e., background data, detection monitoring event).

5.2 Historical Groundwater Flow

Historical potentiometric data from the site show that groundwater flow generally is a subdued representation of topography. Groundwater flows from north to south across the site.

Groundwater elevations typically range from 350 feet MSL to 330 feet MSL. Seasonal variations of 1 to 20 feet are typical at the site. Groundwater elevation data indicates that water levels tend to be higher in the early spring and lower during the fall and winter seasons. **Table 3, Historical Groundwater Elevations Summary** below provides a summary of water level data for the site.

Table 2. Historical Well Sampling Summary									
	Background								Detection
Event	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	D.1
Date	8/2016	10/2016	10/2016	11/2016	1/2017	3/2017	4/2017	5/2017	8/2017

Notes: (1) B.# indicates background event
 (2) D.# indicates detection monitoring event

Table 3. Historical Groundwater Elevations Summary				
Well ID	Average GW Elevation (ft MSL)	Highest GW Elevation (ft MSL)	Lowest GW Elevation (ft MSL)	GW Elevation Variation (ft)
MW-1	410.64	411.19	410.20	0.99
MW-2	416.70	417.39	416.03	1.36
MW-3	415.43	417.21	414.43	2.78
MW-4	400.19	401.59	398.79	2.80
GS-GSA-MW-3	335.04	353.28	331.02	22.26
GS-GSA-MW-4	348.11	351.50	333.59	17.91
GS-GSA-MW-8	319.06	323.71	315.43	8.28

*Groundwater elevations are referenced to NAVD88

6.0 GROUNDWATER SAMPLING AND ANALYSIS

6.1 Sampling Event Summary

Groundwater sampling for the initial detection monitoring event was performed in August 2017. Samples were analyzed for the constituents listed in Appendix III. Analytical data from the groundwater monitoring events are included as Appendix A.

6.2 Groundwater Sample Collection

Groundwater samples for the initial detection monitoring event, and preceding background events, were collected by Alabama Power Company (APC) Field Services in accordance with §257.93(a). All monitoring wells at the Plant Gorgas Gypsum Pond are equipped with a dedicated bladder 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:

- 0.1 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.

6.3 Sample Preservation and Handling

Groundwater samples are collected within the designated size and type of containers required for specific parameters. Sample bottles were pre-preserved by the laboratory and did not require field preservation. Where temperature control is required, samples were placed in an ice-packed cooler.

6.4 Chain of Custody

All samples were handled under COC procedures beginning in the field through delivery to the laboratory. The COC forms contain the following information:

- Sample destination and transporter,
- Sample identification numbers,
- Signature of collector,
- Date and time of collection,
- Identification of monitoring well,
- Number of sample containers,
- Parameters requested for analysis,
- Signature of person(s) involved in the chain of possession, and
- Inclusive dates of possession.

6.5 Laboratory Analysis

Groundwater samples collected for background data included both Appendix III and Appendix IV parameters. Groundwater samples collected during the August 2017 detection monitoring event were analyzed for Appendix III monitoring parameters only. Analytical methods used for groundwater sample analysis are listed on the analytical laboratory reports included in Appendix A.

Laboratory analyses were performed by the Alabama Power Company 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 COC records for the monitoring events are presented in Appendix A.

6.6 Quality Assurance and Quality Control

During each sampling event, quality assurance/quality control samples (QA/QC) were collected at a rate of one sample per every 10 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 in accordance with 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

(RPDs), post digestion spikes, laboratory and field duplicate RPDs, field and equipment blanks, and reporting limits.

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.

7.0 GROUNDWATER DATA EVALUATION

7.1 Groundwater Elevation Data Evaluation

Prior to recording water levels, each well was opened and allowed to equilibrate to atmospheric pressure. Within a 24-hour period, depths to groundwater were measured to the nearest 0.01 foot with an electronic water level indicator. Depths are referenced from the top of the inner PVC well casing. Groundwater elevations are calculated by subtracting the depth to groundwater from surveyed top of casing (TOC) elevations.

During the initial detection monitoring event, static groundwater elevations obtained prior to purging and sampling ranged from 323 to 351 feet MSL downgradient of the site. Groundwater levels for the most recent sampling event are included in **Table 4, Groundwater Elevations (August 2017)**.

The most recent potentiometric surface map presented in **Figure 4, Potentiometric Surface Map (August 2017)**, shows that groundwater flows from north to south across the site.

Well ID	TOC Elev (ft MSL)	Depth to GW (ft TOC)	GW Elevation
MW-1	502.38	91.19	411.19
MW-2	502.17	85.1	417.07
MW-3	525.9	110.17	415.73
MW-4	517.89	116.86	401.03
GS-GSA-MW-3	442.63	106.44	336.19
GS-GSA-MW-4	442.1	91.08	351.02
GS-GSA-MW-8	404.38	80.67	323.71

8.0 BACKGROUND GROUNDWATER DATA QUALITY

Groundwater elevation data and potentiometric surface maps were utilized to determine upgradient or “background” monitoring well locations. These well locations provide representative samples of groundwater quality as it enters the site.

8.1 Statistical Methodology and Tests

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.

Time series plots were used to screen proposed background data for suspected outliers, or extreme values that would result in limits that are not conservative from a regulatory perspective. Suspected outliers at all wells for Appendix III parameters are formally tested using Tukey’s box plot method and, when identified, flagged in the computer database and deselected prior to construction of statistical limits.

No suspected outliers were observed in any of the data sets with the exception of sulfate in downgradient well GS-GSA-MW-3. The value of <50 mg/L for sulfate in this well was flagged and deselected prior to construction of statistical limits. When any values are identified as outliers, they are plotted in a lighter font on the time series graph. A substitution of the most recent reporting limit was applied when varying detection limits existed in data.

No true seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

The Sen's Slope/Mann Kendall trend test was used to evaluate all background data at each well to identify statistically significant increasing or decreasing trends. The results of the trend analyses showed a few statistically significant increasing and decreasing trends. All trends noted were relatively low in magnitude when compared to average concentrations; therefore, no adjustments were recommended to any data sets.

Prediction limits are constructed as recommended in the USEPA Unified guidance, and based on the following:

- Annual false positive rate of 10%
- 1-of-2 verification resample plan option for both intrawell and interwell prediction limits
- Semi-annual sampling
- Constituents = 7 (Appendix III)
- Downgradient wells = 3

Parametric prediction limits (PL) are used when the screened historical data follow a normal or transformed-normal distribution. When data could not be normalized or when the majority of data were non-detects, a non-parametric test was utilized. The confidence level associated with both tests is greater than 99%. The distribution of data was tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (USEPA, 2009), data were analyzed using either parametric or non-parametric prediction limits.

The following guidance is also applicable to the statistical analysis method:

- Statistical analyses are not performed on analytes containing 100% non-detects (EPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in the background, simple substitution of one-half the reporting limit may be utilized in the statistical analysis. The reporting limit utilized for non-detects is the practical quantitation limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data.
- Non-parametric prediction limits are used on data containing greater than 50% non-detects.

The statistical evaluation report is located in **Appendix B, Statistical Data Evaluation**.

8.2 Statistical Exceedances

Analytical data from the initial detection monitoring event in August 2017 at the Gypsum Pond was statistically analyzed in accordance with the PE-certified statistical methods described above. Based on the statistical analysis included in Appendix B, SSIs of the prediction limit were identified. Summary tables identifying the SSIs are included in Appendix B.

8.3 Verification Sampling

The statistical methods incorporate the option of resampling to verify SSIs. Verification sampling was not conducted for the initial detection monitoring event; therefore, the initial SSIs are treated as verified.

8.4 Appendix IV Background Data

Pursuant to §257.95, Appendix IV groundwater quality data is statistically analyzed and compared to groundwater protection standards if assessment monitoring is implemented. APC is currently performing detection monitoring at the Gypsum Pond per §257.94 and has not implemented assessment monitoring. Therefore, statistical analysis of the Appendix IV data has not been performed.

9.0 MONITORING PROGRAM STATUS

Plant Gorgas Gypsum Pond is in detection monitoring. SSIs of Appendix III parameters have been identified. Pursuant to §257.94(e)(1), APC has 90 days from the date of determination to either (1) prepare a demonstration that a source other than the Gypsum Pond was the cause, or (2) implement assessment monitoring per §257.95. APC will address the reported SSIs in accordance with the requirements, and options, of §257.94(e)(1-3) and (f).

10.0 CONCLUSIONS AND FUTURE ACTIONS

In accordance with §257.94(b), eight (8) independent samples were collected from each background and downgradient well and analyzed for the constituents listed in Appendix III and IV. Background sampling was performed over the period of August 2016 to June 2017. Groundwater sampling for the first detection monitoring event was performed in August 2017. Constituents listed in Appendix III were collected and analyzed for detection monitoring. APC will perform the following future actions:

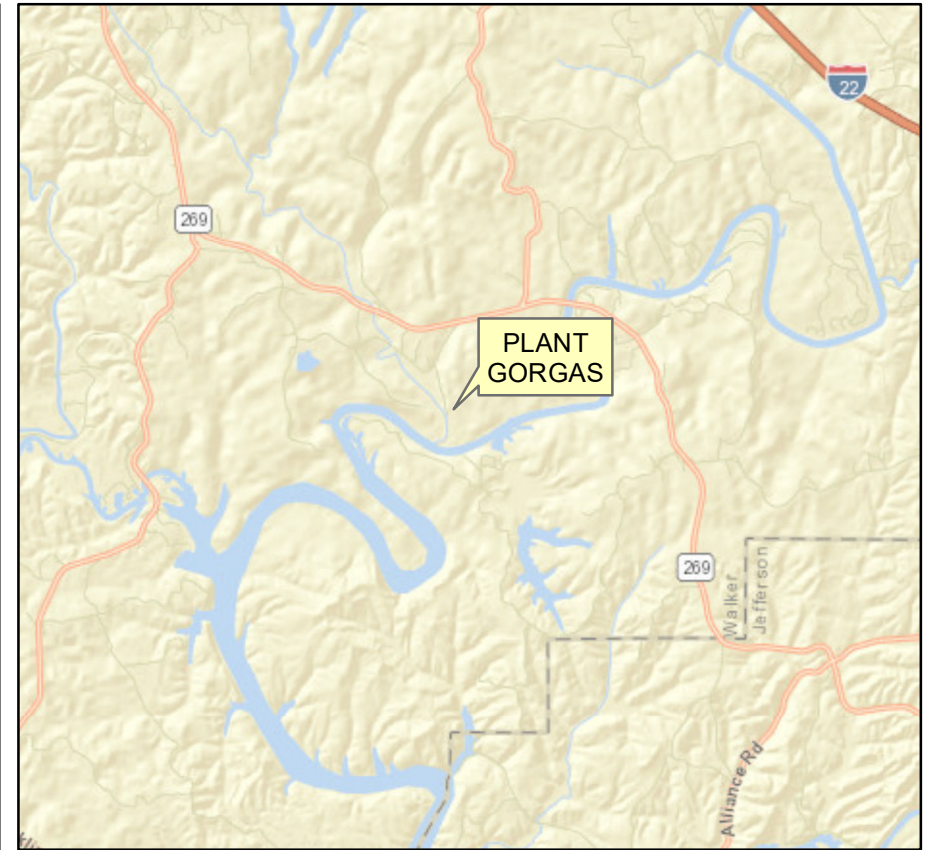
- Conduct alternate source demonstration or complete groundwater sampling for Assessment Monitoring within 90 days of determining the SSI, and
- Conduct the first semi-annual detection monitoring event by April 2018.

11.0 REFERENCES

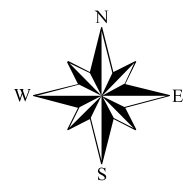
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Figures

Figures



Legend
 — Gorgas Gypsum Pond Boundary



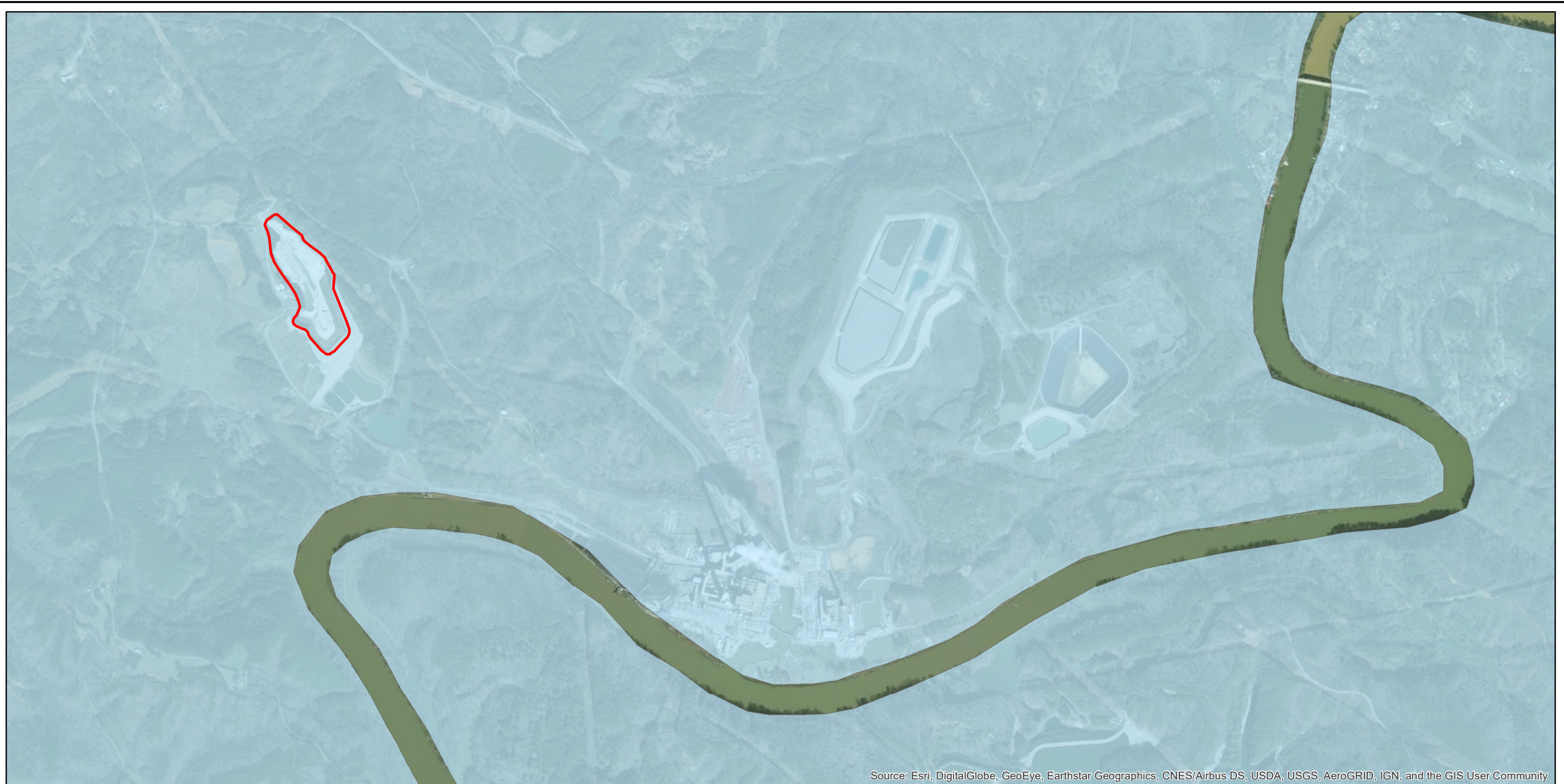
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 Earth Science and Environmental Engineering**

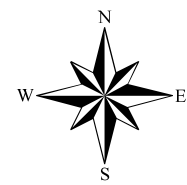
FOR

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

Alabama Power Company					
SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:150k		ES4054-S1	1		



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



Legend

Gorgas Gypsum Pond Boundary

Geologic Units

Pottsville Formation (upper part), Appalachian Plateaus

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

FOR




Alabama Power Company

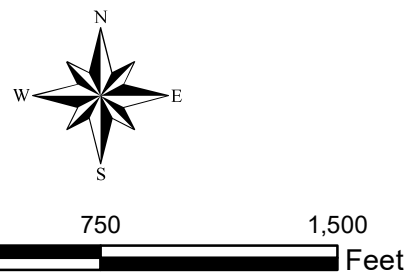
**PLANT GORGAS
GYPSUM POND
FIGURE 2
SITE GEOLOGIC MAP**

SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
		ES4054-S2	1		



Legend

-  Monitoring_Wells
-  Background Monitoring Wells
-  Gorgas Gypsum Pond Boundary



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




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

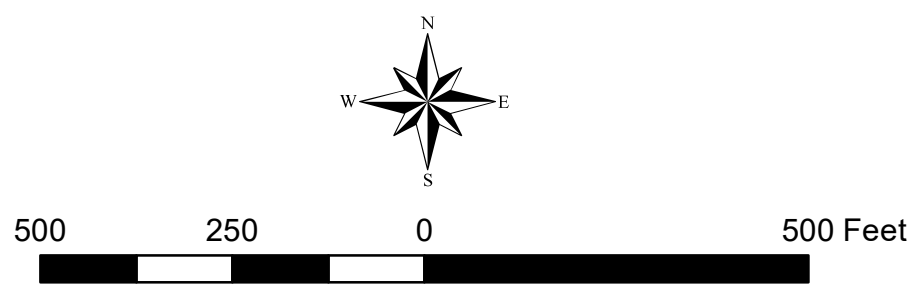
FOR

Alabama Power Company					
SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:7.3k		ES4054S3	1		



Legend

-  Monitoring_Wells
-  Potentiometric Surface (Aug. 2017)
-  Gorgas Gypsum Pond Boundary



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**PLANT GORGAS
GYPSUM POND
FIGURE 4
POTENTIOMETRIC SURFACE MAP
(AUG. 2017)**

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

FOR

Alabama Power Company					
SCALE	PROJ I.D.	DRAWING NUMBER	SHEET	CONT'D	REV
1:3k		ES4054S4	1		

Appendix A

Groundwater Analytical Data

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_38

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_38

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>Chloride Batch ID</u>	<u>Fluoride Batch ID</u>	<u>Sulfate Batch ID</u>	<u>Project ID</u>
AW21503	573681	573682	573683	WMWGORG_38
AW21504	573681	573682	573683	WMWGORG_38
AW21505	573681	573682	573683	WMWGORG_38
AW21506	573681	573682	573683	WMWGORG_38
AW21507	573681	573682	573683	WMWGORG_38
AW21508	573776	573777	573778	WMWGORG_38
AW21509	573681	573682	573683	WMWGORG_38
AW21510	573681	573682	573683	WMWGORG_38
AW21511	573681	573682	573683	WMWGORG_38
AW21512	573681	573682	573683	WMWGORG_38
AW21513	573773	573774	573775	WMWGORG_38

4. All of the above samples were analyzed and prepared by EPA 300.0.
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 instrument performance check (IPC) was analyzed and all criteria were met.
- All laboratory reagent blanks were less than the method detection limits for the requested anions, with the following exception:
 1. The blank for anion sulfate in batch 573683 presented a concentration above the MDL of 0.3, at 0.428 mg/L. Sulfate concentrations in samples AW21506 and AW21509 were reported above the MDL but are less than 10x the blank sample concentration, and are considered as quantitatively estimated results with indication of potential high bias.
 2. The blank for anion sulfate in batch 573775 presented a concentration above the MDL of 0.3, at 0.428 mg/L. Sulfate concentration in associated batch sample AW21513 was above 10x the blank concentration; no qualification was necessary.
 3. The blank for anion sulfate in batch 573778 presented a concentration above the MDL of 0.3, at 0.363 mg/L. Sulfate concentration in associated batch sample AW21508 was above 10x the blank concentration; no qualification was necessary.

- All laboratory fortified blanks were within acceptance criteria for the anions requested, with the following exception:
 1. No closing LFB was listed or run for the dilution re-analyses for chloride and sulfate in batches 573681 & 573683, respectively. Due to absence of a closing LFB, the reported results for the following sample dilutions are qualified as quantitatively estimated with indeterminate bias direction and magnitude: for chloride, samples AW21503, AW21504 and AW21505; for sulfate, samples AW21503, AW21504, AW21505, AW21507, AW21510, AW21511 and AW21512.
 2. No closing LFB was listed or run for the dilution re-analyses for sulfate in batch 573775. Due to absence of a closing LFB, the reported results for the following sample dilution is qualified as quantitatively estimated with indeterminate bias direction and magnitude: for sulfate, sample AW21513.
 3. No closing LFB was listed or run for the dilution re-analyses for sulfate in batch 573778. Due to absence of a closing LFB, the reported results for the following sample dilution is qualified as quantitatively estimated with indeterminate bias direction and magnitude: for sulfate, sample AW21508.
- 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 laboratory fortified matrix (LFM) sample was analyzed with each batch. All acceptance criteria for accuracy were met, with the following exception: the recovery of sulfate in batch LFM sample AW21512S exceeded the upper limit of 120% (at 143%); the reported sulfate result for the parent sample only is qualified as quantitatively estimated with indication of potential high bias due to matrix effects. It is noted that both the parent sample and the LFM sample were re-analyzed at a 40x dilution. It is noted that the LFM for sulfate in batches 573775 & 573778 was diluted prior to spiking, and the diluted LFM sample was spiked at 40x normal concentration, with acceptable recovery.



- A sample duplicate and/or laboratory fortified matrix duplicate were analyzed with each batch. All acceptance criteria for precision were met. It is noted that separate and distinct criteria for duplicate precision calculations, based on sample and duplicate anion concentrations, are used to assess precision compliance. These are as follow: if the sample and duplicate are both greater than 5x anion Reporting Limit (RL) concentration, the precision is calculated and reported as relative percent difference (RPD), with an acceptance range of 0 - 20%; if either the sample or duplicate are less than 5x anion RL, the precision is calculated and reported as the absolute value of the difference between the two concentrations, with an acceptance range of less than or equal to the anion RL value.
7. Samples AW21503 and AW21504 were re-analyzed at a 10x dilution for chloride and sulfate, sample AW21505 was re-analyzed at a 40x dilution for chloride and sulfate, samples AW21507 and AW21511 were re-analyzed at a 20x dilution for sulfate, and samples AW21510, AW21512, AW21513 and AW21508 were re-analyzed at a 40x dilution for sulfate, due to the undiluted results exceeding the calibrated range of the detector. The dilution results for chloride and sulfate for these samples should be used; reporting limit (RL) values are adjusted upward to reflect the dilution factor applied.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW21503	Chloride, Sulfate	10X
AW21504	Chloride, Sulfate	10X
AW21505	Chloride, Sulfate	40X
AW21507	Sulfate	20X
AW21510	Sulfate	40X
AW21511	Sulfate	20X
AW21512	Sulfate	40X
AW21513	Sulfate	40X
AW21508	Sulfate	40X

8. The raw data results are shown with dilution factors included, when dilutions are manually performed by the analyst.
 The raw data results are shown without dilution factor corrections, when dilutions are run automatically by the instrument.



Metals ICP

Gorgas Gypsum

WMWGORG_38

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>
AW21503	20160907D_20160908A	WMWGORG_38
AW21504	20160907D_20160908A	WMWGORG_38
AW21505	20160907D_20160908A	WMWGORG_38
AW21506	20160921	WMWGORG_38
AW21507	20160921	WMWGORG_38
AW21508	20160908B	WMWGORG_38
AW21509	20160921	WMWGORG_38
AW21510	20160921	WMWGORG_38
AW21511	20160921	WMWGORG_38
AW21512	20160921	WMWGORG_38
AW21513	20160921	WMWGORG_38

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

General Quality Control Procedures:

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

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AW21505
Calcium	AW21513
Calcium	AW21508

The concentrations of these analytes in the matrix spike were less than 30 percent of the analyte concentration in the sample causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- 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 without a dilution with the following exceptions: The following samples were diluted due to sample concentrations from the undiluted analysis were over the high standard of the calibration curve.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW21503	Calcium	10.15X
AW21504	Calcium	10.15X
AW21505	Calcium	10.15X
AW21505MS	Calcium	10.15X
AW21505MSD	Calcium	10.15X
AW21507	Calcium	10.15X
AW21510	Calcium	10.15X
AW21511	Calcium	10.15X
AW21512	Calcium	10.15X

Case Narrative



AW21513	Calcium	10.15X
AW21513MS	Calcium	10.15X
AW21513MSD	Calcium	10.15X
AW21508	Calcium	10.1x
AW21508MS	Calcium	10.1x
AW21508MSD	Calcium	10.1x

8. The raw data results include both results corrected for dilution and results not corrected for dilution.



Metals ICPMS

Gorgas Gypsum

WMWGORG_38

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.

Sample ID	Batch ID	Project ID
AW21503	574568	WMWGORG_38
AW21504	574568	WMWGORG_38
AW21505	574568	WMWGORG_38
AW21506	574568	WMWGORG_38
AW21507	574568	WMWGORG_38
AW21509	574568	WMWGORG_38
AW21510	574568	WMWGORG_38
AW21511	574568	WMWGORG_38
AW21512	574568	WMWGORG_38
AW21513	575506	WMWGORG_38
AW21508	575343	WMWGORG_38

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.
7. The MDL for Cadmium was increased from 0.0001 mg/L to 0.0002 mg/L.

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, with the exception of batch 575343, which is a dissolved sample and does not get digested.
- 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.
8. All samples were analyzed at a dilution of 1 to 5 to compensate for any matrix effects.
9. The raw data results are shown with dilution factors included.



Mercury

Gorgas Gypsum

WMWGORG_38

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>
AW21503	574418	WMWGORG_38
AW21504	574418	WMWGORG_38
AW21505	574418	WMWGORG_38
AW21506	574418	WMWGORG_38
AW21507	574418	WMWGORG_38
AW21509	574418	WMWGORG_38
AW21510	574418	WMWGORG_38
AW21511	574711	WMWGORG_38
AW21512	574711	WMWGORG_38
AW21513	574711	WMWGORG_38
AW21508	575171	WMWGORG_38

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_38

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>
AW21503	574112	WMWGORG_38
AW21504	574112	WMWGORG_38
AW21505	574112	WMWGORG_38
AW21506	574102	WMWGORG_38
AW21507	574102	WMWGORG_38
AW21509	574102	WMWGORG_38
AW21510	574102	WMWGORG_38
AW21511	574102	WMWGORG_38
AW21512	574102	WMWGORG_38
AW21513	574102	WMWGORG_38

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.
7. The reporting limit for TDS was incorrectly listed as 2.5 mg/L. This has been corrected based on filter volume and project limits. Sample AW21506 is now Not Detected.

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 0.5 mg of the previous weight, with the exception of:

<u>Sample ID</u>	<u>Milligram Difference</u>
Blank (batch 574102)	0.7
Blank (batch 574112)	1.0
LCS (batch 574112)	1.2
AW21512	1.0

Samples with a milligram difference of 1.0 mg and above will be qualified. Samples with a milligram difference of less than 1.0 mg will remain unqualified, as this amount does not significantly affect reported results.

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



- 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 2.5 mg and 200 mg residue with the exception of AW21506 and AW21509 which were <2.5mg.

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**

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW21503

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0135	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	0.00576	mg/L
* Boron, Total	HRG	9/7/2016	EPA 200.7		1.015	0.02	0.1	4.88	mg/L
* Calcium, Total	HRG	9/8/2016	EPA 200.7		10.15	1.0	5.0	102	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	0.00148	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.151	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/7/2016	EPA 200.7		1.015	0.01	0.05	0.291	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	J 0.00234	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		100	992	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		10	0.40	2.50	112	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	0.793	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		10	3.0	10	567	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, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW21503

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21505 Calcium, Total	mg/L	-0.0150	0.22	5.00	550	546	4.96	4.25 to 5.75	220	70 to 130	0.730	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21505 Boron, Total	mg/L	0.00445	0.044	1.00	1.78	1.78	0.944	0.85 to 1.15	98.1	70 to 130	0.00	20	
AW21505 Lithium, Total	mg/L	0.000162	0.022	0.20	0.577	0.574	0.205	0.17 to 0.23	108	70 to 130	0.521	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	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, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW21503

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec Limit	Prec	Limit	
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21505	Solids, Dissolved	mg/L	4.00	25			5050	46.0	40 to 60			0.298	5
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	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, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

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**

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW21504

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0128	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	0.00674	mg/L
* Boron, Total	HRG	9/7/2016	EPA 200.7		1.015	0.02	0.1	4.90	mg/L
* Calcium, Total	HRG	9/8/2016	EPA 200.7		10.15	1.0	5.0	102	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	0.00146	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.149	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/7/2016	EPA 200.7		1.015	0.01	0.05	0.291	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	J 0.00223	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		100	964	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		10	0.40	2.50	112	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	0.798	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		10	3.0	10	568	mg/L

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW21504

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21505 Calcium, Total	mg/L	-0.0150	0.22	5.00	550	546	4.96	4.25 to 5.75	220	70 to 130	0.730	20	
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21505 Boron, Total	mg/L	0.00445	0.044	1.00	1.78	1.78	0.944	0.85 to 1.15	98.1	70 to 130	0.00	20	
AW21505 Lithium, Total	mg/L	0.000162	0.022	0.20	0.577	0.574	0.205	0.17 to 0.23	108	70 to 130	0.521	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW21504

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21505	Solids, Dissolved	mg/L	4.00	25			5050	46.0	40 to 60			0.298	5
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW21505

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0155	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/7/2016	EPA 200.7		1.015	0.02	0.1	0.799	mg/L
* Calcium, Total	HRG	9/8/2016	EPA 200.7		101.5	10	50	539	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0303	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/7/2016	EPA 200.7		1.015	0.01	0.05	0.362	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		250	5020	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		40	1.60	10.00	204	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	J 0.264	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		40	12.0	40	2910	mg/L

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Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount,
 therefore will not be qualified. SGC 12/5/16

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW21505

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21505 Calcium, Total	mg/L	-0.0150	0.22	5.00	550	546	4.96	4.25 to 5.75	220	70 to 130	0.730	20	
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	
AW21505 Boron, Total	mg/L	0.00445	0.044	1.00	1.78	1.78	0.944	0.85 to 1.15	98.1	70 to 130	0.00	20	
AW21505 Lithium, Total	mg/L	0.000162	0.022	0.20	0.577	0.574	0.205	0.17 to 0.23	108	70 to 130	0.521	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/5/16

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW21505

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample		LFB Limit	Rec		Prec Limit	
							Duplicate	LFB		Rec	Limit		
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21505	Solids, Dissolved	mg/L	4.00	25			5050	46.0	40 to 60			0.298	5
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/5/16

CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW21506

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	J 0.189	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		1	0.3	1	J 0.525	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.

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now. The result has been updated to Not Detected.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW21506

Sample Analysis	Units	MB	MB				LFB			Rec		Prec
			Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15	101	70 to 130	0.939	20
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23	122	70 to 130	1.70	20
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75	60.0	70 to 130	1.56	20
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now. The result has been updated to Not Detected.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW21506

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
			Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20
AW21513	Solids, Dissolved	mg/L	-4.0	25			4230	45	40 to 60			0.475	5
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20

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Expiration: June 30, 2017

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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

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW21507

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	J 0.00119	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0536	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	J 0.0898	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		10.15	1.0	5.0	263	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0201	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	0.0683	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	J 0.00310	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		125	2280	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	4.03	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	J 0.165	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		20	6.0	20	1250	mg/L

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Expiration: June 30, 2017

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 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW21507

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15	101	70 to 130	0.939	20	
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75	60.0	70 to 130	1.56	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23	122	70 to 130	1.70	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20	

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW21507

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec Limit	Prec	Limit	
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21513	Solids, Dissolved	mg/L	-4.0	25			4230	45	40 to 60			0.475	5
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

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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

Revised Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-8 Diss

Laboratory ID Number: AW21508

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.001	0.005	J 0.00127	mg/L
* Barium, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.002	0.01	0.0579	mg/L
* Beryllium, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.0006	0.003	U Not Detected	mg/L
* Boron, Dissolved	HRG	9/8/2016	EPA 200.7		1.01	0.02	0.1	J 0.0854	mg/L
* Calcium, Dissolved	HRG	9/8/2016	EPA 200.7		10.1	1.0	5.0	254	mg/L
* Cadmium, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.002	0.01	0.0223	mg/L
* Chromium, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.002	0.01	U Not Detected	mg/L
* Mercury, Dissolved by CVAA	MCW	9/12/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Dissolved	HRG	9/8/2016	EPA 200.7		1.01	0.01	0.05	0.0654	mg/L
* Molybdenum, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.002	0.01	J 0.00321	mg/L
* Lead, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.001	0.005	U Not Detected	mg/L
* Selenium, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.002	0.01	U Not Detected	mg/L
* Thallium, Dissolved	TAS	9/13/2016	EPA 200.8		5.025	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Chloride, Dissolved	SES	8/25/2016	EPA 300.0		1	0.04	0.25	4.00	mg/L
Fluoride, Dissolved	SES	8/25/2016	EPA 300.0		1	0.01	0.3	J 0.156	mg/L
Sulfate, Dissolved	SES	8/26/2016	EPA 300.0		40	12.0	40	1220	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: REVISED COPY: Cd MDL increased from 0.0001mg/L to 0.0002mg/L.
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/5/16

Revised Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-8 Diss

Laboratory ID Number: AW21508

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB	Rec		Prec	Limit
			Limit	Spike					Limit	Prec		
AW21508 Antimony, Dissolved	mg/L	0.0000347	0.00132	0.10	0.108	0.106			108	70 to 130	1.39	20
AW21508 Calcium, Dissolved	mg/L	-0.0136	0.22	5.00	254	255	4.95	4.25 to 5.75	0.00	70 to 130	0.393	20
AW21508 Beryllium, Dissolved	mg/L	0.00000287	0.00132	0.10	0.108	0.107			108	70 to 130	0.326	20
AW21508 Selenium, Dissolved	mg/L	0.0000301	0.0044	0.10	0.101	0.101			101	70 to 130	0.565	20
AW21508 Thallium, Dissolved	mg/L	0.0000114	0.00044	0.10	0.109	0.107			109	70 to 130	1.65	20
AW21508 Barium, Dissolved	mg/L	-0.00000291	0.0044	0.10	0.166	0.164			108	70 to 130	1.18	20
AW21508 Boron, Dissolved	mg/L	-0.0000623	0.044	1.00	1.07	1.09	0.973	0.85 to 1.15	98.5	70 to 130	1.85	20
AW21508 Cobalt, Dissolved	mg/L	0.000000954	0.0044	0.10	0.121	0.122			98.7	70 to 130	0.394	20
AW21508 Cadmium, Dissolved	mg/L	-0.00000114	0.00044	0.10	0.108	0.106			108	70 to 130	1.39	20
AW21508 Mercury, Dissolved by CVAA	mg/L	0.000149	0.0005	0.004	0.00389	0.00383	0.00397	0.0034 to 0.0046	97.2	70 to 130	1.68	20
AW21508 Chromium, Dissolved	mg/L	0.00000667	0.0044	0.10	0.107	0.107			107	70 to 130	0.164	20
AW21508 Lithium, Dissolved	mg/L	-0.000105	0.022	0.200	0.272	0.252	0.212	0.17 to 0.23	103	70 to 130	7.63	20
AW21508 Arsenic, Dissolved	mg/L	0.00000707	0.0022	0.10	0.109	0.109			108	70 to 130	0.139	20
AW21508 Lead, Dissolved	mg/L	0.00000353	0.0022	0.10	0.110	0.109			110	70 to 130	0.521	20
AW21508 Molybdenum, Dissolved	mg/L	0.0000434	0.0044	0.10	0.111	0.110			108	70 to 130	1.32	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/5/16

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

Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-8 Diss

Laboratory ID Number: AW21508

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW21508	Chloride, Dissolved	mg/L	0.000	0.25	10.00	13.9		3.99	9.90	9 to 11	99.0	80 to 120	0.200	20
AW21508	Fluoride, Dissolved	mg/L	0.000	0.3	2.00	2.09		0.157	1.98	1.8 to 2.2	96.7	80 to 120	0.639	20
AW21508	Sulfate, Dissolved	mg/L	0.363	1.0	800	2110		1210	19.6	18 to 22	111	80 to 120	0.823	20

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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**

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW21509

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		1	0.3	1	J 0.412	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW21509

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15	101	70 to 130	0.939	20	
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75	60.0	70 to 130	1.56	20	
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23	122	70 to 130	1.70	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW21509

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec Limit	Prec	Limit	
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20
AW21513	Solids, Dissolved	mg/L	-4.0	25			4230	45	40 to 60			0.475	5

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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

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-1

Laboratory ID Number: AW21510

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	J 0.00949	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	J 0.0247	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		10.15	1.0	5.0	142	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	0.00182	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0471	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/1/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	J 0.0236	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		125	2040	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	2.22	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	J 0.133	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		40	12.0	40	1450	mg/L

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

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 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-1

Laboratory ID Number: AW21510

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15	101	70 to 130	0.939	20	
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21510 Mercury, Total by CVAA	mg/L	0.000146	0.0005	0.004	0.00404	0.00406	0.00407	0.0034 to 0.0046	101	70 to 130	0.595	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23	122	70 to 130	1.70	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75	60.0	70 to 130	1.56	20	

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Expiration: June 30, 2017

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-1

Laboratory ID Number: AW21510

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec Limit	Prec	Limit	
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20
AW21513	Solids, Dissolved	mg/L	-4.0	25			4230	45	40 to 60			0.475	5

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 Calera, AL 35040
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 FAX (205) 257-1654

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-2

Laboratory ID Number: AW21511

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0139	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	J 0.0316	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		10.15	1.0	5.0	180	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.0930	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/6/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	0.0651	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		125	1720	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	3.23	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	J 0.129	mg/L
* Sulfate, Total	SES	8/25/2016	EPA 300.0		20	6.0	20	1130	mg/L

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Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-2

Laboratory ID Number: AW21511

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit	
			Limit	Spike				Limit	Rec	Limit	Prec			
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115		112	70 to 130		3.92	20
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15		101	70 to 130		0.939	20
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115		96.2	70 to 130		0.374	20
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115		89.4	70 to 130		0.203	20
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115		104	70 to 130		2.58	20
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75		60.0	70 to 130		1.56	20
AW22356 Mercury, Total by CVAA	mg/L	0.000114	0.0005	0.004	0.00372	0.00367	0.00388	0.0034 to 0.0046		93.0	70 to 130		1.39	20
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115		110	70 to 130		1.52	20
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115		103	70 to 130		0.335	20
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23		122	70 to 130		1.70	20
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115		95.2	70 to 130		1.01	20
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115		99.0	70 to 130		0.532	20
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115		101	70 to 130		3.08	20
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115		93.4	70 to 130		0.0202	20
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115		96.1	70 to 130		0.262	20

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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-2

Laboratory ID Number: AW21511

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample		LFB Limit	Rec		Prec Limit	
							Duplicate	LFB		Rec	Limit		
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20
AW21513	Solids, Dissolved	mg/L	-4.0	25			4230	45	40 to 60			0.475	5
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: The RL for TDS was incorrectly reported as 2.5mg/L. It has been corrected now.
 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.

CC:

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

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW21512

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	J 0.00962	mg/L
* Beryllium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0006	0.003	0.00308	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	J 0.0431	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		10.15	1.0	5.0	274	mg/L
* Cadmium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	0.00131	mg/L
* Cobalt, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	0.271	mg/L
* Chromium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/6/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	0.138	mg/L
* Molybdenum, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	TAS	9/6/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	TAS	9/6/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		125	3080	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	1.47	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	0.346	mg/L
* Sulfate, Total	SES	8/26/2016	EPA 300.0		40	12.0	40	2190	mg/L

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 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.
 Difference between the last two consecutive weights for TDS resulted in 1.0mg, which is above the required 0.5mg limit.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW21512

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15	101	70 to 130	0.939	20	
AW21512 Arsenic, Total	mg/L	-0.00000367	0.0022	0.10	0.0962	0.0959	0.0979	0.085 to 0.115	96.2	70 to 130	0.374	20	
AW21512 Beryllium, Total	mg/L	0.0000972	0.00132	0.10	0.115	0.110	0.114	0.085 to 0.115	112	70 to 130	3.92	20	
AW21512 Selenium, Total	mg/L	0.0000158	0.0044	0.10	0.0894	0.0896	0.101	0.085 to 0.115	89.4	70 to 130	0.203	20	
AW21512 Cobalt, Total	mg/L	-0.00000268	0.0044	0.10	0.381	0.375	0.0967	0.085 to 0.115	110	70 to 130	1.52	20	
AW21512 Molybdenum, Total	mg/L	-0.00000325	0.0044	0.10	0.103	0.102	0.0981	0.085 to 0.115	103	70 to 130	0.335	20	
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23	122	70 to 130	1.70	20	
AW21512 Barium, Total	mg/L	-0.00000142	0.0044	0.10	0.103	0.103	0.0970	0.085 to 0.115	93.4	70 to 130	0.0202	20	
AW21512 Cadmium, Total	mg/L	-0.000000493	0.00044	0.10	0.0974	0.0972	0.103	0.085 to 0.115	96.1	70 to 130	0.262	20	
AW21512 Antimony, Total	mg/L	0.0000353	0.00132	0.10	0.0952	0.0942	0.0985	0.085 to 0.115	95.2	70 to 130	1.01	20	
AW21512 Chromium, Total	mg/L	-0.00000174	0.0044	0.10	0.0990	0.0984	0.0969	0.085 to 0.115	99.0	70 to 130	0.532	20	
AW21512 Lead, Total	mg/L	0.00000521	0.0022	0.10	0.101	0.0983	0.101	0.085 to 0.115	101	70 to 130	3.08	20	
AW21512 Thallium, Total	mg/L	-0.00000898	0.00044	0.10	0.104	0.102	0.0989	0.085 to 0.115	104	70 to 130	2.58	20	
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75	60.0	70 to 130	1.56	20	
AW22356 Mercury, Total by CVAA	mg/L	0.000114	0.0005	0.004	0.00372	0.00367	0.00388	0.0034 to 0.0046	93.0	70 to 130	1.39	20	

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Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW21512

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec Limit	Prec	Limit	
AW21512	Fluoride, Total	mg/L	0.000	0.3	2.00	2.33	0.347	2.03	1.8 to 2.2	99.2	80 to 120	0.289	20
AW21513	Solids, Dissolved	mg/L	-4.0	25			4230	45	40 to 60			0.475	5
AW21512	Sulfate, Total	mg/L	0.428	1.0	800	3000	2200	20.2	18 to 22	101	80 to 120	0.456	20
AW21512	Chloride, Total	mg/L	0.000	0.25	10.00	11.4	1.46	9.91	9 to 11	99.3	80 to 120	0.683	20

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CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW21513

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/5/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	9/14/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Arsenic, Total	JHK	9/14/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Barium, Total	JHK	9/14/2016	EPA 200.8		5.075	0.002	0.01	0.0118	mg/L
* Beryllium, Total	JHK	9/14/2016	EPA 200.8		5.075	0.0006	0.003	U Not Detected	mg/L
* Boron, Total	HRG	9/21/2016	EPA 200.7		1.015	0.02	0.1	J 0.0451	mg/L
* Calcium, Total	HRG	9/21/2016	EPA 200.7		10.15	1.0	5.0	319	mg/L
* Cadmium, Total	JHK	9/14/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
* Cobalt, Total	JHK	9/14/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	9/14/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	9/6/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	9/21/2016	EPA 200.7		1.015	0.01	0.05	J 0.0488	mg/L
* Molybdenum, Total	JHK	9/14/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Lead, Total	JHK	9/14/2016	EPA 200.8		5.075	0.001	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	9/14/2016	EPA 200.8		5.075	0.002	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	9/14/2016	EPA 200.8		5.075	0.0002	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	8/29/2016	SM 2540C		1		250	4190	mg/L
* Chloride, Total	SES	8/25/2016	EPA 300.0		1	0.04	0.25	2.07	mg/L
* Fluoride, Total	SES	8/25/2016	EPA 300.0		1	0.01	0.3	0.329	mg/L
* Sulfate, Total	SES	8/26/2016	EPA 300.0		40	12.0	40	2770	mg/L

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 Cd MDL was increased from 0.0001mg/L to 0.0002mg/L.
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/5/16

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW21513

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit	
			Limit	Spike				Limit	Rec	Limit	Prec			
AW22358 Arsenic, Total	mg/L	0.0000129	0.0022	0.10	0.100	0.0999	0.103	0.085 to 0.115		100	70 to 130		0.207	20
AW22358 Cadmium, Total	mg/L	0.00000569	0.00044	0.10	0.0997	0.101	0.106	0.085 to 0.115		99.7	70 to 130		1.23	20
AW21513 Boron, Total	mg/L	0.00839	0.044	1.00	1.06	1.07	0.999	0.85 to 1.15		101	70 to 130		0.939	20
AW22358 Molybdenum, Total	mg/L	0.00000879	0.0044	0.10	0.0997	0.0990	0.103	0.085 to 0.115		99.7	70 to 130		0.675	20
AW22358 Lead, Total	mg/L	0.00000852	0.0022	0.10	0.104	0.104	0.101	0.085 to 0.115		104	70 to 130		0.257	20
AW22358 Selenium, Total	mg/L	0.0000701	0.0044	0.10	0.0967	0.0971	0.103	0.085 to 0.115		96.7	70 to 130		0.487	20
AW22358 Thallium, Total	mg/L	0.0000209	0.00044	0.10	0.102	0.103	0.0999	0.085 to 0.115		102	70 to 130		0.316	20
AW21513 Calcium, Total	mg/L	-0.00944	0.22	5.00	322	317	4.92	4.25 to 5.75		60.0	70 to 130		1.56	20
AW22356 Mercury, Total by CVAA	mg/L	0.000114	0.0005	0.004	0.00372	0.00367	0.00388	0.0034 to 0.0046		93.0	70 to 130		1.39	20
AW22358 Antimony, Total	mg/L	0.0000563	0.00132	0.10	0.0964	0.0968	0.101	0.085 to 0.115		96.4	70 to 130		0.411	20
AW22358 Barium, Total	mg/L	0.00000544	0.0044	0.10	0.0974	0.0962	0.100	0.085 to 0.115		97.4	70 to 130		1.22	20
AW22358 Beryllium, Total	mg/L	0.00000889	0.00132	0.10	0.105	0.104	0.108	0.085 to 0.115		105	70 to 130		0.268	20
AW21513 Lithium, Total	mg/L	0.000540	0.022	0.20	0.292	0.297	0.217	0.17 to 0.23		122	70 to 130		1.70	20
AW22358 Chromium, Total	mg/L	0.00000465	0.0044	0.10	0.103	0.103	0.105	0.085 to 0.115		103	70 to 130		0.299	20
AW22358 Cobalt, Total	mg/L	-0.00000185	0.0044	0.10	0.0945	0.0949	0.102	0.085 to 0.115		94.5	70 to 130		0.462	20

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To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 24-Aug-16
 Customer ID:
 Delivery Date: 25-Aug-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW21513

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW21513	Solids, Dissolved	mg/L	-4.0	25				4230	45	40 to 60			0.475	5
AW21513	Fluoride, Total	mg/L	0.000	0.3	2.00	2.31	0.327	2.01	1.8 to 2.2	99.0	80 to 120	0.610	20	
AW21513	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	1.96	9.92	9 to 11	101	80 to 120	5.46	20	
AW21513	Sulfate, Total	mg/L	0.429	1.0	800	3690	2760	20.0	18 to 22	115	80 to 120	0.362	20	

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 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/5/16

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

Field Complete

Lab Complete

Lab ETA **08/25/2016 07:30**

Requested Complete Date	Routine	Results To	Dustin Brooks, John Pugh, Greg Dyer
Site Representative	Bruce Williams	Requested By	Greg Dyer
Collector	Jason Rouss	Location	Gorgas Gypsum

Analysis Requested	Bottle 1: Radium 226 & 228 (1) 1L bottle, Bottle 2: Metals and Hg (1) 500 mL bottle, Bottle 3: TDS and Anions (1) 500 mL bottle
Comments	2.0mL HNO3 added to bottle 2 (AW21508) 3.0mL HNO3 added to bottle 1 (AW21508) 8/25/16 SGC

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-4	08/24/2016	12:05	3	Groundwater		AW21503
MW-4 Dup	08/24/2016	12:05	3	Sample Duplicate		AW21504
MW-3	08/24/2016	14:35	3	Groundwater		AW21505
FB-1	08/24/2016	14:47	3	Field Blank		AW21506
MW-8	08/24/2016	17:55	3	Groundwater		AW21507
MW-8 Dis	08/24/2016	17:55	3	Groundwater	✓	AW21508
EB-1	08/24/2016	18:58	3	Equipment Blank		AW21509

Relinquished By	Received By	Date/Time
	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o.ou, email=sgcopela@southernco.com, c=US Date: 2016.08.25 09:22:46 -05'00'</small>	08/25/2016 09:22

SmarTroll ID	4696-23441-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	4677-23342-4-1	
Cooler Temp	1.0 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	4831-24392-20-19	



Chain of Custody

Groundwater

APC General Testing Laboratory
General Service Complex Building 8

Field Complete

Lab Complete

Lab ETA **08/25/2016 07:30**

Requested Complete Date	Routine
Site Representative	Bruce Williams
Collector	Anthony Goggins

Results To	Dustin Brooks, John Pugh, Greg Dyer
Requested By	Greg Dyer
Location	Gorgas Gypsum

Analysis Requested	Bottle 1: Radium 226 & 228 (1) 1L bottle, Bottle 2: Metals and Hg (1) 500 mL bottle, Bottle 3: TDS and Anions (1) 500 mL bottle
Comments	Radium duplicate MW-1

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-1	08/24/2016	10:27	4	Groundwater		AW21510
MW-2	08/24/2016	11:54	3	Groundwater		AW21511
MW-3L	08/24/2016	13:15	3	Groundwater		AW21512
MW-4L	08/24/2016	14:29	3	Groundwater		AW21513

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o.ou, email=sgcopela@southernmco.com, c=US Date: 2016.08.25 09:24:24 -05'00'</small>	08/25/2016 09:24

SmarTroll ID	5151-26193-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	5160-26211-1-1	
Cooler Temp	1.0 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	4831-24392-20-19	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

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Tel: (850)474-1001

TestAmerica Job ID: 400-126446-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (1)

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:

10/3/2016 5:10:13 PM

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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: 400-126446-1
SDG: Gorgas Gypsum (1)

Job ID: 400-126446-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-126446-1

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch: 160-268965: The following samples were prepared at a reduced aliquot due to limited volume. AW21503 MW-4 (400-126446-1), AW21504 MW-4 DUP (400-126446-2), AW21505 MW-3 (400-126446-3), AW21506 FB-1 (400-126446-4), AW21507 MW-8 (400-126446-5), AW21508 MW-8 DISS (400-126446-6), AW21509 EB-1 (400-126446-7), AW21510 MW-1 (400-126446-8), AW21510 MW-1 (400-126446-8[DUJ]), AW21511 MW-2 (400-126446-9), AW21512 MW-3L (400-126446-10) and AW21513 MW-4L (400-126446-11) .

Method(s) PrecSep-21: Radium-226 Prep Batch:160-268962: The following samples were run at reduced aliquot due to limited volume: AW21503 MW-4 (400-126446-1), AW21504 MW-4 DUP (400-126446-2), AW21505 MW-3 (400-126446-3), AW21506 FB-1 (400-126446-4), AW21507 MW-8 (400-126446-5), AW21508 MW-8 DISS (400-126446-6), AW21509 EB-1 (400-126446-7), AW21510 MW-1 (400-126446-8), AW21510 MW-1 (400-126446-8[DUJ]), AW21511 MW-2 (400-126446-9), AW21512 MW-3L (400-126446-10) and AW21513 MW-4L (400-126446-11).



Method Summary

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

TestAmerica Job ID: 400-126446-1
SDG: Gorgas Gypsum (1)

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: 400-126446-1
SDG: Gorgas Gypsum (1)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-126446-1	AW21503 MW-4	Water	08/24/16 12:05	08/30/16 16:08
400-126446-2	AW21504 MW-4 DUP	Water	08/24/16 12:05	08/30/16 16:08
400-126446-3	AW21505 MW-3	Water	08/24/16 14:35	08/30/16 16:08
400-126446-4	AW21506 FB-1	Water	08/24/16 14:47	08/30/16 16:08
400-126446-5	AW21507 MW-8	Water	08/24/16 17:55	08/30/16 16:08
400-126446-6	AW21508 MW-8 DISS	Water	08/24/16 17:55	08/30/16 16:08
400-126446-7	AW21509 EB-1	Water	08/24/16 18:58	08/30/16 16:08
400-126446-8	AW21510 MW-1	Water	08/24/16 10:27	08/30/16 16:08
400-126446-9	AW21511 MW-2	Water	08/24/16 11:54	08/30/16 16:08
400-126446-10	AW21512 MW-3L	Water	08/24/16 13:15	08/30/16 16:08
400-126446-11	AW21513 MW-4L	Water	08/24/16 14:29	08/30/16 16:08

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21503 MW-4

Lab Sample ID: 400-126446-1

Date Collected: 08/24/16 12:05

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.0901	0.0909	1.00	0.134	pCi/L	09/09/16 20:09	10/01/16 19:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.2		40 - 110					09/09/16 20:09	10/01/16 19:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.610	U	0.401	0.405	1.00	0.613	pCi/L	09/09/16 20:32	09/21/16 17:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.2		40 - 110					09/09/16 20:32	09/21/16 17:36	1
Y Carrier	78.1		40 - 110					09/09/16 20:32	09/21/16 17:36	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	0.741		0.411	0.415	5.00	0.613	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21504 MW-4 DUP

Lab Sample ID: 400-126446-2

Date Collected: 08/24/16 12:05

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0801	U	0.0684	0.0688	1.00	0.104	pCi/L	09/09/16 20:09	10/01/16 19:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.3		40 - 110					09/09/16 20:09	10/01/16 19:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.09		0.503	0.513	1.00	0.733	pCi/L	09/09/16 20:32	09/21/16 17:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.3		40 - 110					09/09/16 20:32	09/21/16 17:36	1
Y Carrier	79.6		40 - 110					09/09/16 20:32	09/21/16 17:36	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	1.17		0.507	0.517	5.00	0.733	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21505 MW-3

Lab Sample ID: 400-126446-3

Date Collected: 08/24/16 14:35

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0658	U	0.0716	0.0719	1.00	0.116	pCi/L	09/09/16 20:09	10/01/16 19:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					09/09/16 20:09	10/01/16 19:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.324	U	0.342	0.343	1.00	0.557	pCi/L	09/09/16 20:32	09/21/16 17:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					09/09/16 20:32	09/21/16 17:36	1
Y Carrier	81.1		40 - 110					09/09/16 20:32	09/21/16 17:36	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	0.389	U	0.349	0.350	5.00	0.557	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21506 FB-1

Lab Sample ID: 400-126446-4

Date Collected: 08/24/16 14:47

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0415	U	0.0644	0.0645	1.00	0.111	pCi/L	09/09/16 20:09	10/01/16 19:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					09/09/16 20:09	10/01/16 19:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.214	U	0.369	0.370	1.00	0.627	pCi/L	09/09/16 20:32	09/21/16 17:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.6		40 - 110					09/09/16 20:32	09/21/16 17:37	1
Y Carrier	83.4		40 - 110					09/09/16 20:32	09/21/16 17:37	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	0.256	U	0.375	0.375	5.00	0.627	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21507 MW-8

Lab Sample ID: 400-126446-5

Date Collected: 08/24/16 17:55

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.110	U	0.0918	0.0923	1.00	0.143	pCi/L	09/09/16 20:09	10/01/16 19:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.9		40 - 110					09/09/16 20:09	10/01/16 19:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.448	U	0.422	0.424	1.00	0.681	pCi/L	09/09/16 20:32	09/21/16 17:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.9		40 - 110					09/09/16 20:32	09/21/16 17:37	1
Y Carrier	75.9		40 - 110					09/09/16 20:32	09/21/16 17:37	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	0.558	U	0.432	0.434	5.00	0.681	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21508 MW-8 DISS

Lab Sample ID: 400-126446-6

Date Collected: 08/24/16 17:55

Matrix: Water

Date Received: 08/30/16 16:08

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.123		0.0696	0.0705	1.00	0.0886	pCi/L	09/09/16 20:09	10/01/16 19:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.9		40 - 110					09/09/16 20:09	10/01/16 19:10	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.283	U	0.390	0.391	1.00	0.652	pCi/L	09/09/16 20:32	09/21/16 17:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.9		40 - 110					09/09/16 20:32	09/21/16 17:37	1
Y Carrier	80.7		40 - 110					09/09/16 20:32	09/21/16 17:37	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228 - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.406		0.396	0.397	5.00	0.652	pCi/L		10/03/16 11:19	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21509 EB-1

Lab Sample ID: 400-126446-7

Date Collected: 08/24/16 18:58

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.141		0.0804	0.0814	1.00	0.107	pCi/L	09/09/16 20:09	10/01/16 19:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.1		40 - 110					09/09/16 20:09	10/01/16 19:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.157	U	0.404	0.404	1.00	0.699	pCi/L	09/09/16 20:32	09/21/16 17:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.1		40 - 110					09/09/16 20:32	09/21/16 17:37	1
Y Carrier	83.0		40 - 110					09/09/16 20:32	09/21/16 17:37	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	0.298	U	0.412	0.412	5.00	0.699	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21510 MW-1

Lab Sample ID: 400-126446-8

Date Collected: 08/24/16 10:27

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0854	U	0.0694	0.0699	1.00	0.105	pCi/L	09/09/16 20:09	10/01/16 19:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		40 - 110					09/09/16 20:09	10/01/16 19:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.481	U	0.422	0.425	1.00	0.675	pCi/L	09/09/16 20:32	09/21/16 17:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		40 - 110					09/09/16 20:32	09/21/16 17:37	1
Y Carrier	74.8		40 - 110					09/09/16 20:32	09/21/16 17:37	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	0.566	U	0.428	0.430	5.00	0.675	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21511 MW-2

Lab Sample ID: 400-126446-9

Date Collected: 08/24/16 11:54

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0403	U	0.0685	0.0686	1.00	0.118	pCi/L	09/09/16 20:09	10/01/16 19:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		40 - 110					09/09/16 20:09	10/01/16 19:08	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.610	U	0.410	0.413	1.00	0.633	pCi/L	09/09/16 20:32	09/21/16 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.1		40 - 110					09/09/16 20:32	09/21/16 17:38	1
Y Carrier	83.4		40 - 110					09/09/16 20:32	09/21/16 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	0.650		0.415	0.419	5.00	0.633	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21512 MW-3L

Lab Sample ID: 400-126446-10

Date Collected: 08/24/16 13:15

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.138		0.0724	0.0734	1.00	0.0915	pCi/L	09/09/16 20:09	10/01/16 22:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		40 - 110					09/09/16 20:09	10/01/16 22:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00711	U	0.342	0.342	1.00	0.617	pCi/L	09/09/16 20:32	09/21/16 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.5		40 - 110					09/09/16 20:32	09/21/16 17:38	1
Y Carrier	84.5		40 - 110					09/09/16 20:32	09/21/16 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	0.131	U	0.350	0.350	5.00	0.617	pCi/L		10/03/16 02:32	1

Client Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21513 MW-4L

Lab Sample ID: 400-126446-11

Date Collected: 08/24/16 14:29

Matrix: Water

Date Received: 08/30/16 16:08

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0647	U	0.0636	0.0638	1.00	0.100	pCi/L	09/09/16 20:09	10/01/16 22:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					09/09/16 20:09	10/01/16 22:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.201	U	0.348	0.349	1.00	0.591	pCi/L	09/09/16 20:32	09/21/16 17:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					09/09/16 20:32	09/21/16 17:38	1
Y Carrier	86.7		40 - 110					09/09/16 20:32	09/21/16 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	0.266	U	0.354	0.355	5.00	0.591	pCi/L		10/03/16 02:32	1

Definitions/Glossary

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

TestAmerica Job ID: 400-126446-1
SDG: Gorgas Gypsum (1)

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-126446-1
 SDG: Gorgas Gypsum (1)

Client Sample ID: AW21503 MW-4

Lab Sample ID: 400-126446-1

Date Collected: 08/24/16 12:05

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272616	10/01/16 19:05	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:36	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21504 MW-4 DUP

Lab Sample ID: 400-126446-2

Date Collected: 08/24/16 12:05

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272616	10/01/16 19:05	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:36	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21505 MW-3

Lab Sample ID: 400-126446-3

Date Collected: 08/24/16 14:35

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272616	10/01/16 19:05	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:36	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21506 FB-1

Lab Sample ID: 400-126446-4

Date Collected: 08/24/16 14:47

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272614	10/01/16 19:09	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:37	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-126446-1
SDG: Gorgas Gypsum (1)

Client Sample ID: AW21507 MW-8

Lab Sample ID: 400-126446-5

Date Collected: 08/24/16 17:55

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272614	10/01/16 19:10	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:37	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21508 MW-8 DISS

Lab Sample ID: 400-126446-6

Date Collected: 08/24/16 17:55

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Dissolved	Analysis	9315		1	272614	10/01/16 19:10	ALS	TAL SL
Dissolved	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Dissolved	Analysis	9320		1	270871	09/21/16 17:37	RTM	TAL SL
Dissolved	Analysis	Ra226_Ra228		1	272751	10/03/16 11:19	RTM	TAL SL

Client Sample ID: AW21509 EB-1

Lab Sample ID: 400-126446-7

Date Collected: 08/24/16 18:58

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272614	10/01/16 19:10	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:37	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21510 MW-1

Lab Sample ID: 400-126446-8

Date Collected: 08/24/16 10:27

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272614	10/01/16 19:10	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:37	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-126446-1
SDG: Gorgas Gypsum (1)

Client Sample ID: AW21511 MW-2

Lab Sample ID: 400-126446-9

Date Collected: 08/24/16 11:54

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272615	10/01/16 19:08	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21512 MW-3L

Lab Sample ID: 400-126446-10

Date Collected: 08/24/16 13:15

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272616	10/01/16 22:11	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	TAL SL

Client Sample ID: AW21513 MW-4L

Lab Sample ID: 400-126446-11

Date Collected: 08/24/16 14:29

Matrix: Water

Date Received: 08/30/16 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			268962	09/09/16 20:09	MCJ	TAL SL
Total/NA	Analysis	9315		1	272616	10/01/16 22:11	ALS	TAL SL
Total/NA	Prep	PrecSep_0			268965	09/09/16 20:32	MCJ	TAL SL
Total/NA	Analysis	9320		1	270871	09/21/16 17:38	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272641	10/03/16 02:32	ALS	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: 400-126446-1
SDG: Gorgas Gypsum (1)

Rad

Prep Batch: 268962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-126446-1	AW21503 MW-4	Total/NA	Water	PrecSep-21	
400-126446-2	AW21504 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-126446-3	AW21505 MW-3	Total/NA	Water	PrecSep-21	
400-126446-4	AW21506 FB-1	Total/NA	Water	PrecSep-21	
400-126446-5	AW21507 MW-8	Total/NA	Water	PrecSep-21	
400-126446-6	AW21508 MW-8 DISS	Dissolved	Water	PrecSep-21	
400-126446-7	AW21509 EB-1	Total/NA	Water	PrecSep-21	
400-126446-8	AW21510 MW-1	Total/NA	Water	PrecSep-21	
400-126446-9	AW21511 MW-2	Total/NA	Water	PrecSep-21	
400-126446-10	AW21512 MW-3L	Total/NA	Water	PrecSep-21	
400-126446-11	AW21513 MW-4L	Total/NA	Water	PrecSep-21	
MB 160-268962/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-268962/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-126446-8 DU	AW21510 MW-1	Total/NA	Water	PrecSep-21	

Prep Batch: 268965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-126446-1	AW21503 MW-4	Total/NA	Water	PrecSep_0	
400-126446-2	AW21504 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-126446-3	AW21505 MW-3	Total/NA	Water	PrecSep_0	
400-126446-4	AW21506 FB-1	Total/NA	Water	PrecSep_0	
400-126446-5	AW21507 MW-8	Total/NA	Water	PrecSep_0	
400-126446-6	AW21508 MW-8 DISS	Dissolved	Water	PrecSep_0	
400-126446-7	AW21509 EB-1	Total/NA	Water	PrecSep_0	
400-126446-8	AW21510 MW-1	Total/NA	Water	PrecSep_0	
400-126446-9	AW21511 MW-2	Total/NA	Water	PrecSep_0	
400-126446-10	AW21512 MW-3L	Total/NA	Water	PrecSep_0	
400-126446-11	AW21513 MW-4L	Total/NA	Water	PrecSep_0	
MB 160-268965/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-268965/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-126446-8 DU	AW21510 MW-1	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-268962/1-A
Matrix: Water
Analysis Batch: 272616

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268962

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05234	U	0.0952	0.0953	1.00	0.165	pCi/L	09/09/16 20:09	10/01/16 19:05	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					09/09/16 20:09	10/01/16 19:05	1

Lab Sample ID: LCS 160-268962/2-A
Matrix: Water
Analysis Batch: 272616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268962

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	14.8	19.30		1.89	1.00	0.110	pCi/L	130	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	65.0		40 - 110						

Lab Sample ID: 400-126446-8 DU
Matrix: Water
Analysis Batch: 272615

Client Sample ID: AW21510 MW-1
Prep Type: Total/NA
Prep Batch: 268962

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.0854	U	0.09280	U	0.0709	1.00	0.105	pCi/L	0.05	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	81.5		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-268965/1-A
Matrix: Water
Analysis Batch: 270871

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 268965

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.8263		0.533	0.539	1.00	0.821	pCi/L	09/09/16 20:32	09/21/16 17:35	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.5		40 - 110					09/09/16 20:32	09/21/16 17:35	1
Y Carrier	77.8		40 - 110					09/09/16 20:32	09/21/16 17:35	1

QC Sample Results

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

TestAmerica Job ID: 400-126446-1
 SDG: Gorgas Gypsum (1)

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

Lab Sample ID: LCS 160-268965/2-A
Matrix: Water
Analysis Batch: 270871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 268965

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	19.4	22.31		2.52	1.00	0.727	pCi/L	115	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	65.0		40 - 110
Y Carrier	84.5		40 - 110

Lab Sample ID: 400-126446-8 DU
Matrix: Water
Analysis Batch: 270871

Client Sample ID: AW21510 MW-1
Prep Type: Total/NA
Prep Batch: 268965

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.481	U	0.06944	U	0.397	1.00	0.697	pCi/L	0.50	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	81.5		40 - 110
Y Carrier	81.1		40 - 110

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-126446-8 DU
Matrix: Water
Analysis Batch: 272641

Client Sample ID: AW21510 MW-1
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	0.566	U	0.1622	U	0.403	5.00	0.697	pCi/L	0.48	

Chain of Custody Record

Client Information		Sampler: Jason Rouss / Anthony Goggins		Lab PM: Whitmire, Cheyenne R		Carrier Tracking No(s):		COC No: 400-56625-24537.1	
Client Contact: Sarah Copeland		Phone:		E-Mail: cheyenne.whitmire@testamericainc.com		Page 1 of 1		Job #: 400-126446	
Company: Alabama Power General Test Laboratory		Due Date Requested:		Analysis Requested		Preservation Codes:		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - NaZSO3 R - NaZSO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 X - EDTA L - EDA Z - other (specify)	
Address: 744 County Rd 87 GSC #8		TAT Requested (days): Routine		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
City: Callera		PO #:		D		9315_Ra226, 9320_Ra228, Ra226Ra228_GFPc		MW-4	
State, Zip: AL, 35040		WO #:		X		X		MW-4 Dup (Sample Duplicate)	
Phone: 205-664-6121 (Tel)		Project #:		X		X		MW-3	
Email: sgcopelia@southernco.com		SSOW#:		X		X		FB-1 (Field Blank)	
Project Name: CCR		Sample Date		X		X		MW-8	
Site: Gorgas Gypsum (1)		Sample Time		X		X		MW-8 Diss (Dissolved Sample)	
		Sample Date		X		X		EB-1 (Equipment Blank)	
		Sample Time		X		X		MW-1	
		Sample Date		X		X		MW-2	
		Sample Time		X		X		MW-3L	
		Sample Date		X		X		MW-4L	
		Sample Time		X		X		Special Instructions/Note:	
		Sample Date		X		X		400-126446 COC	
		Sample Time		X		X		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
		Sample Date		X		X		Special Instructions/QC Requirements:	
		Sample Time		X		X		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
		Sample Date		X		X		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
		Sample Time		X		X		Special Instructions/QC Requirements:	
		Sample Date		X		X		Empty Kit Relinquished by:	
		Sample Time		X		X		Relinquished by: Sarah Copeland	
		Sample Date		X		X		Date/Time: 08/29/2016, 1040	
		Sample Time		X		X		Company: APC	
		Sample Date		X		X		Date/Time: 8/30/16 16 08	
		Sample Time		X		X		Company: TA	
		Sample Date		X		X		Date/Time:	
		Sample Time		X		X		Date/Time:	
		Sample Date		X		X		Date/Time:	
		Sample Time		X		X		Cooler Temperature(s) °C and Other Remarks: 27.6°C IRG	
		Sample Date		X		X		Custody Seal No.: Δ Yes Δ No	



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-126446-1
SDG Number: Gorgas Gypsum (1)

Login Number: 126446

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	27.6°C IR-6
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	



Certification Summary

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

TestAmerica Job ID: 400-126446-1
SDG: Gorgas Gypsum (1)

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-17
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	07-31-16 *
Kansas	NELAP	7	E-10253	10-31-16
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-16
Louisiana	NELAP	6	30976	06-30-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-16
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-17
Rhode Island	State Program	1	LAO00307	12-30-16
South Carolina	State Program	4	96026	06-30-16 *
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	003757	11-30-16 *
Iowa	State Program	7	373	12-01-16 *
Kansas	NELAP	7	E-10236	10-31-16 *
Kentucky (DW)	State Program	4	90125	12-31-16
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA160008	12-31-16
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542016-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17
New York	NELAP	2	11616	03-31-17
North Dakota	State Program	8	R207	06-30-17
NRC	NRC		24-24817-01	12-31-22

* Certification renewal pending - certification considered valid.

TestAmerica Pensacola

Certification Summary

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

TestAmerica Job ID: 400-126446-1
SDG: Gorgas Gypsum (1)

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-17 *
South Carolina	State Program	4	85002001	06-30-16 *
Texas	NELAP	6	T104704193-16-10	07-31-17
USDA	Federal		P330-14-0016	01-09-17
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-16 *

* Certification renewal pending - 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

Analytical Report

 Alabama Power



Sample Group : WMWGORG_1046

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1046

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>Chloride Batch ID</u>	<u>Fluoride Batch ID</u>	<u>Sulfate Batch ID</u>	<u>Project ID</u>
AW25475	578210	578212	578214	WMWGORG_1046
AW25476	578210	578212	578214	WMWGORG_1046
AW25477	578210	578212	578214	WMWGORG_1046
AW25478	578210	578212	578214	WMWGORG_1046
AW25479	578210	578212	578214	WMWGORG_1046
AW25480	578210	578212	578214	WMWGORG_1046
AW25481	578210	578212	578214	WMWGORG_1046
AW25482	578210	578212	578214	WMWGORG_1046
AW25483	578210	578212	578214	WMWGORG_1046
AW25484	578210	578212	578214	WMWGORG_1046

4. All of the above samples were analyzed and prepared by EPA 300.0.
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 instrument performance check (IPC) was analyzed and all criteria were met.
- All laboratory reagent blanks were less than the method detection limits for the requested anions, with the following exception: the blank for anion sulfate presented a negative concentration greater than the absolute MDL value of 0.3, at -0.302 mg/L. Two batch samples (AW25478 and AW25480) presented negative sulfate concentrations (-0.222 and -0.186) below the absolute MDL value, and are reported as non-detects. All other batch sulfate samples are above 10x the absolute blank value; no qualification is necessary.
- All laboratory fortified blanks were within acceptance criteria for the anions requested, with the following exception: no closing LFB was listed for the dilution re-analyses for chloride or sulfate. Due to absence of LFB data, the reported results for the following sample dilutions are qualified as quantitatively estimated with indeterminate bias direction and magnitude: for chloride, samples AW25476, AW25477 and AW25479; for sulfate, samples AW25475, AW25476, AW25477, AW25479, AW25481, AW25482, AW25483 and AW25484.



- 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 laboratory fortified matrix (LFM) sample was analyzed with each batch. All acceptance criteria for accuracy were met. It is noted that the LFM for sulfate was diluted prior to spiking, and the diluted LFM sample was spiked at 50x normal concentration, with acceptable recovery.
 - A sample duplicate and/or laboratory fortified matrix duplicate were analyzed with each batch. All acceptance criteria for precision were met. It is noted that separate and distinct criteria for duplicate precision calculations, based on sample and duplicate anion concentrations, are used to assess precision compliance. These are as follow: if the sample and duplicate are both greater than 5x anion Reporting Limit (RL) concentration, the precision is calculated and reported as relative percent difference (RPD), with an acceptance range of 0 - 20%; if either the sample or duplicate are less than 5x anion RL, the precision is calculated and reported as the absolute value of the difference between the two concentrations, with an acceptance range of less than or equal to the anion RL value.
7. Samples AW25476 and AW25477 were re-analyzed for chloride and sulfate at a 10x dilution, sample AW25475 was re-analyzed for sulfate at a 20x dilution, samples AW25481 and AW25482 were re-analyzed for sulfate at a 20x dilution, sample AW25483 was re-analyzed for sulfate at a 30x dilution, sample AW25479 was re-analyzed for chloride and sulfate at a 50x dilution, and sample AW25484 was re-analyzed for sulfate at a 50x dilution, due to undiluted results exceeding the calibrated range of the detector. The dilution results for chloride and sulfate for these samples should be used; reporting limit (RL) values are adjusted upward to reflect the dilution factor applied.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW25475	Sulfate	20X
AW25476	Chloride, Sulfate	10X
AW25477	Chloride, Sulfate	10X
AW25479	Chloride, Sulfate	50X
AW25481	Sulfate	20X
AW25482	Sulfate	20X
AW25483	Sulfate	30X
AW25484	Sulfate	50X



8. The raw data results are shown with dilution factors included, when dilutions are manually performed by the analyst.
The raw data results are shown without dilution factor corrections, when dilutions are run automatically by the instrument.



Metals ICP

Gorgas Gypsum

WMWGORG_1046

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW25475	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25476	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25477	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25478	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25479	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25480	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25481	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25482	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25483	20161012E2_20161013B_20161013F	WMWGORG_1046
AW25484	20161012G_20161013C	WMWGORG_1046

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

General Quality Control Procedures:

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

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AW25483

The concentration of the matrix spike was less than 30 percent of the concentration of the sample concentration causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- 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 without a dilution with the following exceptions: The following samples were diluted due to sample concentrations from the undiluted analysis were over the high standard of the calibration curve.

<u>Sample</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW25475	Calcium	10X
AW25476	Calcium	10X
AW25477	Calcium	10X
AW25481	Calcium	10X
AW25482	Calcium	10X
AW25483	Calcium	10X
AW25483MS	Calcium	10X
AW25483MSD	Calcium	10X
AW25484	Calcium	10X
AW25479	Calcium	100X

Alabama Power General Test Laboratory
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Case Narrative

 Alabama Power



8. The raw data results include both results corrected for dilution and results not corrected for dilution.



Metals ICPMS

Gorgas Gypsum

WMWGORG_1046

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW25475	578764	WMWGORG_1046
AW25476	578764	WMWGORG_1046
AW25477	578764	WMWGORG_1046
AW25478	578764	WMWGORG_1046
AW25479	578764	WMWGORG_1046
AW25480	578764	WMWGORG_1046
AW25481	578764	WMWGORG_1046
AW25482	578764	WMWGORG_1046
AW25483	578764	WMWGORG_1046
AW25484	578764	WMWGORG_1046

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.
7. Cadmium MDL increased from 0.0001mg/L to 0.0002mg/L. Sample AW25484 is now reported as Not Detected.

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.
8. All samples were analyzed at a dilution of 1 to 5 to compensate for any matrix effects.
9. The raw data results are shown with dilution factors included.



Mercury

Gorgas Gypsum

WMWGORG_1046

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
3. All standards and solutions are NIST/ISO/IEC/Guide 34 traceable and were used within their recommended shelf life.

Sample ID	Batch ID	Project ID
AW25475	578499	WMWGORG_1046
AW25476	578499	WMWGORG_1046
AW25477	578499	WMWGORG_1046
AW25478	578499	WMWGORG_1046
AW25479	579112	WMWGORG_1046
AW25480	579112	WMWGORG_1046
AW25481	579112	WMWGORG_1046
AW25482	579112	WMWGORG_1046
AW25483	579112	WMWGORG_1046
AW25484	579112	WMWGORG_1046

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, with the exception of the LCS preceding sample AW25475 due to instrument reductant reagent not flowing correctly. The issue was corrected and the second run results for AW25475 were reported.
- The method blank associated with each digestion batch was below the limit of quantitation for the requested analyte, with the exception of the MB preceding sample AW25475 due to instrument reductant reagent not flowing correctly. The issue was corrected and the second run results for AW25475 were reported.
- 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_1046

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW25475	578343	WMWGORG_1046
AW25476	578343	WMWGORG_1046
AW25477	578343	WMWGORG_1046
AW25478	578343	WMWGORG_1046
AW25479	578343	WMWGORG_1046
AW25480	578343	WMWGORG_1046
AW25481	578344	WMWGORG_1046
AW25482	578344	WMWGORG_1046
AW25483	578344	WMWGORG_1046
AW25484	578344	WMWGORG_1046

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.
7. Reporting limit for TDS was incorrectly listed as 2.5mg/L. It has been corrected based on filter volume and project limits now.

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 0.5 mg of the previous weight, with the exception of:

<u>Sample ID</u>	<u>Milligram Difference</u>
AW25477	0.8
AW25481	1.1

Samples with a milligram difference of 1.0 mg and above will be qualified. Samples with a milligram difference of less than 1.0 mg will remain unqualified, as this amount does not significantly affect reported results.

- 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 2.5 mg and 200 mg residue with the exception of AW25478 & AW25480 which were <2.5mg.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW25475

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	J 0.00114	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0681	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	J 0.0821	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	253	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0167	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/13/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	0.0661	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		125	2370	mg/L
* Chloride, Total	SES	10/10/2016	EPA 300.0		1	0.04	0.25	3.87	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	J 0.114	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		20	6.0	20	1270	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, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17



Corrected Copy

To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW25475

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75	144	70 to 130	2.43	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	
AW25478 Mercury, Total by CVAA	mg/L	0.0000596	0.0005	0.004	0.00386	0.00380	0.00388	0.0034 to 0.0046	96.6	70 to 130	1.71	20	
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15	95.2	70 to 130	0.803	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23	113	70 to 130	0.927	20	
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	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, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW25475

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0		2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25479	Solids, Dissolved	mg/L	-1.0	25				4900	50.0	40 to 60			0.204	5
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27		0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890		3030	20.1	18 to 22	83.0	80 to 120	0.985	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, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17

CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW25476

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0127	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	0.00469	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	4.75	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	98.4	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	0.00147	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.143	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/13/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	0.287	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	J 0.00739	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		100	988	mg/L
* Chloride, Total	SES	10/11/2016	EPA 300.0		10	0.40	2.50	115	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	0.769	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		10	3.0	10	596	mg/L

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To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW25476

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115		97.0	70 to 130	2.38	20
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115		101	70 to 130	0.507	20
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115		97.9	70 to 130	1.73	20
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23		113	70 to 130	0.927	20
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115		103	70 to 130	1.30	20
AW25478 Mercury, Total by CVAA	mg/L	0.0000596	0.0005	0.004	0.00386	0.00380	0.00388	0.0034 to 0.0046		96.6	70 to 130	1.71	20
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115		109	70 to 130	0.389	20
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15		95.2	70 to 130	0.803	20
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115		98.1	70 to 130	3.18	20
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75		144	70 to 130	2.43	20
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115		91.5	70 to 130	0.896	20
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115		93.5	70 to 130	1.95	20
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115		109	70 to 130	1.24	20
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115		96.3	70 to 130	4.01	20
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115		100	70 to 130	0.723	20

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW25476

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25479	Solids, Dissolved	mg/L	-1.0	25				4900	50.0	40 to 60			0.204	5
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0		2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27		0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890		3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW25477

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0129	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	0.00473	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	4.76	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	103	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	0.00151	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.141	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/13/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	0.285	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	J 0.00711	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		100	1020	mg/L
* Chloride, Total	SES	10/11/2016	EPA 300.0		10	0.40	2.50	113	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	0.761	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		10	3.0	10	589	mg/L

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To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW25477

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115		97.0	70 to 130	2.38	20
AW25478 Mercury, Total by CVAA	mg/L	0.0000596	0.0005	0.004	0.00386	0.00380	0.00388	0.0034 to 0.0046		96.6	70 to 130	1.71	20
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115		109	70 to 130	0.389	20
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115		101	70 to 130	0.507	20
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115		97.9	70 to 130	1.73	20
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115		96.3	70 to 130	4.01	20
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115		100	70 to 130	0.723	20
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23		113	70 to 130	0.927	20
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115		103	70 to 130	1.30	20
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15		95.2	70 to 130	0.803	20
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115		98.1	70 to 130	3.18	20
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75		144	70 to 130	2.43	20
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115		91.5	70 to 130	0.896	20
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115		93.5	70 to 130	1.95	20
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115		109	70 to 130	1.24	20

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW25477

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0		2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25479	Solids, Dissolved	mg/L	-1.0	25				4900	50.0	40 to 60			0.204	5
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27		0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890		3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW25478

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	J 0.0379	mg/L
* Calcium, Total	HRG	10/12/2016	EPA 200.7		1	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/13/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	10/10/2016	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	10/10/2016	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW25478

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23	113	70 to 130	0.927	20	
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75	144	70 to 130	2.43	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	20	
AW25478 Mercury, Total by CVAA	mg/L	0.0000596	0.0005	0.004	0.00386	0.00380	0.00388	0.0034 to 0.0046	96.6	70 to 130	1.71	20	
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15	95.2	70 to 130	0.803	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW25478

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25479	Solids, Dissolved	mg/L	-1.0	25				4900	50.0	40 to 60			0.204	5
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0		2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27		0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890		3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW25479

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0156	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	0.889	mg/L
* Calcium, Total	HRG	10/12/2016	EPA 200.7		100	10.0	50.0	519.7	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0410	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/19/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	0.371	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		250	4880	mg/L
* Chloride, Total	SES	10/11/2016	EPA 300.0		50	2.00	12.50	220	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	J 0.276	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		50	15.0	50	2980	mg/L

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW25479

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25494 Mercury, Total by CVAA	mg/L	0.0000760	0.0005	0.004	0.00389	0.00394	0.00399	0.0034 to 0.0046	97.3	70 to 130	1.17	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	20	
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23	113	70 to 130	0.927	20	
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75	144	70 to 130	2.43	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15	95.2	70 to 130	0.803	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW25479

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25479	Solids, Dissolved	mg/L	-1.0	25				4900	50.0	40 to 60			0.204	5
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0		2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27		0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890		3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW25480

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	10/12/2016	EPA 200.7		1	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/19/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	10/10/2016	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	10/10/2016	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW25480

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25494 Mercury, Total by CVAA	mg/L	0.0000760	0.0005	0.004	0.00389	0.00394	0.00399	0.0034 to 0.0046	97.3	70 to 130	1.17	20	
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15	95.2	70 to 130	0.803	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	20	
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75	144	70 to 130	2.43	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23	113	70 to 130	0.927	20	
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	

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To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW25480

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25479	Solids, Dissolved	mg/L	-1.0	25				4900	50.0	40 to 60			0.204	5
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0		2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27		0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890		3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-1 Landfill

Laboratory ID Number: AW25481

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0105	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	J 0.0307	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	139	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	0.00188	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0525	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/19/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	J 0.0229	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	J 0.00211	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		125	2110	mg/L
* Chloride, Total	SES	10/10/2016	EPA 300.0		1	0.04	0.25	2.34	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	J 0.103	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		20	6.0	20	1460	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, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17
 Difference between the last two consecutive final weights for TDS resulted in 1.1mg, which is above the required 0.5mg limit.

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-1 Landfill

Laboratory ID Number: AW25481

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25494 Mercury, Total by CVAA	mg/L	0.0000760	0.0005	0.004	0.00389	0.00394	0.00399	0.0034 to 0.0046	97.3	70 to 130	1.17	20	
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15	95.2	70 to 130	0.803	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23	113	70 to 130	0.927	20	
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	20	
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75	144	70 to 130	2.43	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	

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 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17
 Difference between the last two consecutive final weights for TDS resulted in 1.1mg, which is above the required 0.5mg limit.

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-1 Landfill

Laboratory ID Number: AW25481

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample		LFB Limit	Rec		Prec Limit	
							Duplicate	LFB		Rec Limit	Prec		
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0	2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25481	Solids, Dissolved	mg/L	-1.0	25			2060	50.0	40 to 60			1.08	5
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27	0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890	3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17
 Difference between the last two consecutive final weights for TDS resulted in 1.1mg, which is above the required 0.5mg limit.

CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-2 Landfill

Laboratory ID Number: AW25482

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0164	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	J 0.0367	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	184	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0964	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/19/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	0.0622	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		100	1800	mg/L
* Chloride, Total	SES	10/10/2016	EPA 300.0		1	0.04	0.25	3.21	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	J 0.086	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		20	6.0	20	1140	mg/L

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-2 Landfill

Laboratory ID Number: AW25482

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115		97.0	70 to 130	2.38	20
AW25494 Mercury, Total by CVAA	mg/L	0.0000760	0.0005	0.004	0.00389	0.00394	0.00399	0.0034 to 0.0046		97.3	70 to 130	1.17	20
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15		95.2	70 to 130	0.803	20
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115		98.1	70 to 130	3.18	20
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23		113	70 to 130	0.927	20
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115		103	70 to 130	1.30	20
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115		96.3	70 to 130	4.01	20
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115		100	70 to 130	0.723	20
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115		101	70 to 130	0.507	20
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115		97.9	70 to 130	1.73	20
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75		144	70 to 130	2.43	20
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115		91.5	70 to 130	0.896	20
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115		93.5	70 to 130	1.95	20
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115		109	70 to 130	1.24	20
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115		109	70 to 130	0.389	20

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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

Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-2 Landfill

Laboratory ID Number: AW25482

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0	2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25481	Solids, Dissolved	mg/L	-1.0	25			2060	50.0	40 to 60			1.08	5
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27	0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890	3030	20.1	18 to 22	83.0	80 to 120	0.985	20

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Expiration: June 30, 2017

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 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17

CC:

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 04-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-3 Landfill

Laboratory ID Number: AW25483

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	J 0.00984	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	J 0.00129	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	J 0.0400	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	243	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	J 0.000689	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.148	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/19/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	0.0966	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		125	2900	mg/L
* Chloride, Total	SES	10/10/2016	EPA 300.0		1	0.04	0.25	1.59	mg/L
* Fluoride, Total	SES	10/10/2016	EPA 300.0		1	0.01	0.3	J 0.266	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		30	9.0	30	1950	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount,
 therefore will not be qualified. SGC 12/9/16

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 04-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-3 Landfill

Laboratory ID Number: AW25483

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25494 Mercury, Total by CVAA	mg/L	0.0000760	0.0005	0.004	0.00389	0.00394	0.00399	0.0034 to 0.0046	97.3	70 to 130	1.17	20	
AW25483 Lithium, Total	mg/L	0.000509	0.022	0.20	0.322	0.325	0.196	0.17 to 0.23	113	70 to 130	0.927	20	
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	
AW25483 Boron, Total	mg/L	0.00777	0.044	1.00	0.992	1.00	0.917	0.85 to 1.15	95.2	70 to 130	0.803	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25483 Calcium, Total	mg/L	-0.0333	0.22	5.00	250	244	4.65	4.25 to 5.75	144	70 to 130	2.43	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/9/16

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 04-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-3 Landfill

Laboratory ID Number: AW25483

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec Limit	Prec	Limit	
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0	2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25481	Solids, Dissolved	mg/L	-1.0	25			2060	50.0	40 to 60			1.08	5
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27	0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890	3030	20.1	18 to 22	83.0	80 to 120	0.985	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, 2017

Comments: CORRECTED COPY: Reporting Limit for TDS was incorrectly listed as 2.5 mg/L. The RL has now been corrected.
 Cadmium MDL was increased from 0.0001 to 0.0002. SGC 3/20/17
 Recovery for Ca is out of range.
 Spike amount is less than 30% sample amount, therefore will not be qualified. SGC 12/9/16

CC:

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

Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4 Landfill

Laboratory ID Number: AW25484

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/9/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	0.0119	mg/L
* Beryllium, Total	TAS	10/18/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	10/12/2016	EPA 200.7		1	0.02	0.1	J 0.0511	mg/L
* Calcium, Total	HRG	10/13/2016	EPA 200.7		10	1.0	5.0	293	mg/L
* Cadmium, Total	TAS	10/18/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	10/19/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	10/12/2016	EPA 200.7		1	0.01	0.05	J 0.0476	mg/L
* Molybdenum, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	TAS	10/18/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	TAS	10/18/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	TAS	10/18/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/12/2016	SM 2540C		1		250	4190	mg/L
* Chloride, Total	SES	10/11/2016	EPA 300.0		1	0.04	0.25	2.02	mg/L
* Fluoride, Total	SES	10/11/2016	EPA 300.0		1	0.01	0.3	J 0.287	mg/L
* Sulfate, Total	SES	10/11/2016	EPA 300.0		50	15.0	50	3060	mg/L

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 Cadmium MDL was increased from 0.0001 to 0.0002. The result for Cd has been correctly changed to Not Detected. SGC 3/20/17

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4 Landfill

Laboratory ID Number: AW25484

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW25484 Chromium, Total	mg/L	0.0000243	0.0044	0.10	0.103	0.105	0.0997	0.085 to 0.115	103	70 to 130	1.30	20	
AW25484 Thallium, Total	mg/L	0.00000890	0.00044	0.10	0.0970	0.0993	0.0915	0.085 to 0.115	97.0	70 to 130	2.38	20	
AW25484 Barium, Total	mg/L	-0.0000102	0.0044	0.10	0.121	0.121	0.107	0.085 to 0.115	109	70 to 130	0.389	20	
AW25494 Mercury, Total by CVAA	mg/L	0.0000760	0.0005	0.004	0.00389	0.00394	0.00399	0.0034 to 0.0046	97.3	70 to 130	1.17	20	
AW25484 Selenium, Total	mg/L	0.0000645	0.0044	0.10	0.0981	0.0950	0.0946	0.085 to 0.115	98.1	70 to 130	3.18	20	
AW25484 Beryllium, Total	mg/L	0.0000139	0.00132	0.10	0.0915	0.0907	0.101	0.085 to 0.115	91.5	70 to 130	0.896	20	
AW25484 Lead, Total	mg/L	0.0000102	0.0022	0.10	0.0935	0.0953	0.0940	0.085 to 0.115	93.5	70 to 130	1.95	20	
AW25484 Molybdenum, Total	mg/L	0.00000722	0.0044	0.10	0.109	0.110	0.102	0.085 to 0.115	109	70 to 130	1.24	20	
AW25494 Boron, Total	mg/L	0.00605	0.044	1.00	0.933	0.931	0.919	0.85 to 1.15	93.3	70 to 130	0.215	20	
AW25484 Antimony, Total	mg/L	0.000122	0.00132	0.10	0.101	0.100	0.103	0.085 to 0.115	101	70 to 130	0.507	20	
AW25484 Cobalt, Total	mg/L	-0.000000275	0.0044	0.10	0.0979	0.0996	0.103	0.085 to 0.115	97.9	70 to 130	1.73	20	
AW25494 Calcium, Total	mg/L	-0.0333	0.22	5.00	4.69	4.66	4.59	4.25 to 5.75	93.8	70 to 130	0.642	20	
AW25484 Arsenic, Total	mg/L	0.0000142	0.0022	0.10	0.0963	0.0925	0.0878	0.085 to 0.115	96.3	70 to 130	4.01	20	
AW25484 Cadmium, Total	mg/L	0.00000309	0.00044	0.10	0.100	0.101	0.0934	0.085 to 0.115	100	70 to 130	0.723	20	
AW25494 Lithium, Total	mg/L	0.000588	0.022	0.20	0.198	0.197	0.195	0.17 to 0.23	99.1	70 to 130	0.506	20	

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 Cadmium MDL was increased from 0.0001 to 0.0002. The result for Cd has been correctly changed to Not Detected. SGC 3/20/17

Alabama Power General Test Laboratory
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 Calera, AL 35040
 (205) 664-6032 or 6171
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Batch QC Summary



Corrected Copy



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 03-Oct-16
 Customer ID:
 Delivery Date: 07-Oct-16

Description: Gorgas Gypsum - MW-4 Landfill

Laboratory ID Number: AW25484

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
			Limit	Limit			Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW25484	Chloride, Total	mg/L	0.00	0.25	10.00	12.0	2.02	9.91	9 to 11	99.8	80 to 120	0.00	20
AW25481	Solids, Dissolved	mg/L	-1.0	25			2060	50.0	40 to 60			1.08	5
AW25484	Fluoride, Total	mg/L	0.00	0.3	2.00	2.27	0.286	2.03	1.8 to 2.2	99.2	80 to 120	0.349	20
AW25484	Sulfate, Total	mg/L	-0.302	1.0	1000	3890	3030	20.1	18 to 22	83.0	80 to 120	0.985	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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 Cadmium MDL was increased from 0.0001 to 0.0002. The result for Cd has been correctly changed to Not Detected. SGC 3/20/17

CC:

Reported: 6/19/2017
 Version: 2.0

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

 Field Complete

 Lab Complete

 Lab ETA

Requested Complete Date

Site Representative

Collector

Results To

Requested By

Location

Analysis Requested

Comments

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-8	10/03/2016	12:50	3	Groundwater		AW25475
MW-4	10/03/2016	14:40	3	Groundwater		AW25476
MW-4 Dup	10/03/2016	14:40	3	Sample Duplicate		AW25477
FB-1	10/03/2016	15:00	3	Field Blank		AW25478
MW-3	10/03/2016	16:00	5	Groundwater		AW25479
EB-1	10/03/2016	16:35	3	Equipment Blank		AW25480
MW-1*	10/03/2016	11:29	0	Groundwater		AW25481
MW-2*	10/03/2016	12:32	0	Groundwater		AW25482
MW-3*	10/04/2016	11:03	0	Groundwater		AW25483
MW-4*	10/03/2016	14:40	0	Groundwater		AW25484

Relinquished By	Received By	Date/Time
	Sarah Copeland <small>Digitally signed by Sarah Copeland Date: 2016.10.10 15:46:02 -05'00'</small>	10/10/2016 15:46

SmarTroll ID

Turbidity ID

All metals and radiological bottles have pH < 2

Cooler Temp

Thermometer ID

pH Strip ID

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: 400-128652-2

TestAmerica Sample Delivery Group: Gorgas Gypsum (2)

Client Project/Site: CCR Plant Gorgas

For:

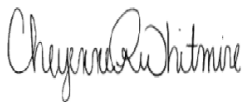
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

11/28/2016 11:05:05 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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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Case Narrative

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

TestAmerica Job ID: 400-128652-2
SDG: Gorgas Gypsum (2)

Job ID: 400-128652-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-128652-2

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-275185: The following samples were prepared at a reduced aliquot due to limited volume: AW25481 MW-1L (400-128652-1), AW25483 MW-3L (400-128652-2), AW25482 MW-2L (400-128652-3), AW25484 MW-4L (400-128652-4), AW25475 MW-8 (400-128652-11), AW25476 MW-4 (400-128652-12), AW25477 MW-4 DUP (400-128652-13), AW25478 FB-1 (400-128652-14), AW25479 MW-3 (400-128652-15), AW25479 MW-3 (400-128652-15[MS]), AW25479 MW-3 (400-128652-15[MSD]) and AW25480 EB-1 (400-128652-16).

Method(s) PrecSep-21: Radium-226 Prep Batch 160-275157: The following samples were prepared at a reduced aliquot due to limited volume: AW25481 MW-1L (400-128652-1), AW25483 MW-3L (400-128652-2), AW25482 MW-2L (400-128652-3), AW25484 MW-4L (400-128652-4), AW25475 MW-8 (400-128652-11), AW25476 MW-4 (400-128652-12), AW25477 MW-4 DUP (400-128652-13), AW25478 FB-1 (400-128652-14), AW25479 MW-3 (400-128652-15), AW25479 MW-3 (400-128652-15[MS]), AW25479 MW-3 (400-128652-15[MSD]) and AW25480 EB-1 (400-128652-16).

Method Summary

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

TestAmerica Job ID: 400-128652-2
SDG: Gorgas Gypsum (2)

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: 400-128652-2
SDG: Gorgas Gypsum (2)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-128652-1	AW25481 MW-1L	Water	10/03/16 11:29	10/13/16 15:30
400-128652-2	AW25483 MW-3L	Water	10/04/16 11:03	10/13/16 15:30
400-128652-3	AW25482 MW-2L	Water	10/03/16 12:32	10/13/16 15:30
400-128652-4	AW25484 MW-4L	Water	10/03/16 14:40	10/13/16 15:30
400-128652-11	AW25475 MW-8	Water	10/03/16 12:50	10/13/16 15:30
400-128652-12	AW25476 MW-4	Water	10/03/16 14:40	10/13/16 15:30
400-128652-13	AW25477 MW-4 DUP	Water	10/03/16 14:40	10/13/16 15:30
400-128652-14	AW25478 FB-1	Water	10/03/16 15:00	10/13/16 15:30
400-128652-15	AW25479 MW-3	Water	10/03/16 16:00	10/13/16 15:30
400-128652-16	AW25480 EB-1	Water	10/03/16 16:35	10/13/16 15:30

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25481 MW-1L

Lab Sample ID: 400-128652-1

Date Collected: 10/03/16 11:29

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.381		0.207	0.210	1.00	0.280	pCi/L	10/19/16 12:32	11/16/16 10:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110					10/19/16 12:32	11/16/16 10:40	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.155	U	0.318	0.319	1.00	0.543	pCi/L	10/19/16 15:00	11/15/16 14:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110					10/19/16 15:00	11/15/16 14:41	1
Y Carrier	94.6		40 - 110					10/19/16 15:00	11/15/16 14:41	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	0.537	U	0.380	0.382	5.00	0.543	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25483 MW-3L

Lab Sample ID: 400-128652-2

Date Collected: 10/04/16 11:03

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0368	U	0.154	0.154	1.00	0.284	pCi/L	10/19/16 12:32	11/16/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		40 - 110					10/19/16 12:32	11/16/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.477	U	0.357	0.360	1.00	0.564	pCi/L	10/19/16 15:00	11/15/16 14:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		40 - 110					10/19/16 15:00	11/15/16 14:41	1
Y Carrier	97.6		40 - 110					10/19/16 15:00	11/15/16 14:41	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	0.514	U	0.389	0.391	5.00	0.564	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25482 MW-2L

Lab Sample ID: 400-128652-3

Date Collected: 10/03/16 12:32

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.240	U	0.179	0.180	1.00	0.265	pCi/L	10/19/16 12:32	11/16/16 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					10/19/16 12:32	11/16/16 10:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.605	U	0.395	0.399	1.00	0.611	pCi/L	10/19/16 15:00	11/15/16 14:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					10/19/16 15:00	11/15/16 14:41	1
Y Carrier	88.2		40 - 110					10/19/16 15:00	11/15/16 14:41	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	0.845		0.434	0.438	5.00	0.611	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25484 MW-4L

Lab Sample ID: 400-128652-4

Date Collected: 10/03/16 14:40

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.104	U	0.187	0.188	1.00	0.323	pCi/L	10/19/16 12:32	11/16/16 10:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					10/19/16 12:32	11/16/16 10:47	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.486	U	0.381	0.384	1.00	0.605	pCi/L	10/19/16 15:00	11/15/16 14:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					10/19/16 15:00	11/15/16 14:41	1
Y Carrier	89.3		40 - 110					10/19/16 15:00	11/15/16 14:41	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	0.425	0.427	5.00	0.605	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25475 MW-8

Lab Sample ID: 400-128652-11

Date Collected: 10/03/16 12:50

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.246	U	0.183	0.184	1.00	0.274	pCi/L	10/19/16 12:32	11/16/16 10:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					10/19/16 12:32	11/16/16 10:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.319	U	0.302	0.303	1.00	0.487	pCi/L	10/19/16 15:00	11/15/16 14:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					10/19/16 15:00	11/15/16 14:42	1
Y Carrier	88.6		40 - 110					10/19/16 15:00	11/15/16 14:42	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	0.565		0.353	0.355	5.00	0.487	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25476 MW-4

Lab Sample ID: 400-128652-12

Date Collected: 10/03/16 14:40

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.328		0.190	0.192	1.00	0.262	pCi/L	10/19/16 12:32	11/16/16 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					10/19/16 12:32	11/16/16 10:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.320	U	0.279	0.280	1.00	0.443	pCi/L	10/19/16 15:00	11/15/16 14:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110					10/19/16 15:00	11/15/16 14:42	1
Y Carrier	86.7		40 - 110					10/19/16 15:00	11/15/16 14:42	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	0.648		0.337	0.340	5.00	0.443	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25477 MW-4 DUP

Lab Sample ID: 400-128652-13

Date Collected: 10/03/16 14:40

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0994	U	0.168	0.168	1.00	0.289	pCi/L	10/19/16 12:32	11/16/16 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					10/19/16 12:32	11/16/16 10:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.308	U	0.327	0.328	1.00	0.534	pCi/L	10/19/16 15:00	11/15/16 14:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					10/19/16 15:00	11/15/16 14:42	1
Y Carrier	93.5		40 - 110					10/19/16 15:00	11/15/16 14:42	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	0.407	U	0.367	0.368	5.00	0.534	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25478 FB-1

Lab Sample ID: 400-128652-14

Date Collected: 10/03/16 15:00

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.211	U	0.181	0.182	1.00	0.280	pCi/L	10/19/16 12:32	11/16/16 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					10/19/16 12:32	11/16/16 10:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.346	U	0.328	0.330	1.00	0.529	pCi/L	10/19/16 15:00	11/15/16 14:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					10/19/16 15:00	11/15/16 14:42	1
Y Carrier	86.7		40 - 110					10/19/16 15:00	11/15/16 14:42	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	0.557		0.375	0.377	5.00	0.529	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25479 MW-3

Lab Sample ID: 400-128652-15

Date Collected: 10/03/16 16:00

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.348		0.218	0.220	1.00	0.318	pCi/L	10/19/16 12:32	11/16/16 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110					10/19/16 12:32	11/16/16 10:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.335	U	0.312	0.314	1.00	0.502	pCi/L	10/19/16 15:00	11/15/16 14:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110					10/19/16 15:00	11/15/16 14:42	1
Y Carrier	90.8		40 - 110					10/19/16 15:00	11/15/16 14:42	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	0.683		0.381	0.383	5.00	0.502	pCi/L		11/17/16 12:20	1

Client Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25480 EB-1

Lab Sample ID: 400-128652-16

Date Collected: 10/03/16 16:35

Matrix: Water

Date Received: 10/13/16 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.262	U	0.189	0.191	1.00	0.280	pCi/L	10/19/16 12:32	11/16/16 10:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		40 - 110					10/19/16 12:32	11/16/16 10:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.684	U	0.457	0.461	1.00	0.716	pCi/L	10/19/16 15:00	11/15/16 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		40 - 110					10/19/16 15:00	11/15/16 14:44	1
Y Carrier	90.8		40 - 110					10/19/16 15:00	11/15/16 14:44	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	0.946		0.495	0.499	5.00	0.716	pCi/L		11/17/16 12:20	1

Definitions/Glossary

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

TestAmerica Job ID: 400-128652-2
SDG: Gorgas Gypsum (2)

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-128652-2
SDG: Gorgas Gypsum (2)

Client Sample ID: AW25481 MW-1L

Lab Sample ID: 400-128652-1

Date Collected: 10/03/16 11:29

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279648	11/16/16 10:40	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:41	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25483 MW-3L

Lab Sample ID: 400-128652-2

Date Collected: 10/04/16 11:03

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279648	11/16/16 10:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:41	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25482 MW-2L

Lab Sample ID: 400-128652-3

Date Collected: 10/03/16 12:32

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279648	11/16/16 10:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:41	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25484 MW-4L

Lab Sample ID: 400-128652-4

Date Collected: 10/03/16 14:40

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279648	11/16/16 10:47	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:41	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25475 MW-8

Lab Sample ID: 400-128652-11

Date Collected: 10/03/16 12:50

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279596	11/16/16 10:52	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:42	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25476 MW-4

Lab Sample ID: 400-128652-12

Date Collected: 10/03/16 14:40

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279596	11/16/16 10:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:42	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25477 MW-4 DUP

Lab Sample ID: 400-128652-13

Date Collected: 10/03/16 14:40

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279596	11/16/16 10:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:42	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25478 FB-1

Lab Sample ID: 400-128652-14

Date Collected: 10/03/16 15:00

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279596	11/16/16 10:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:42	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Client Sample ID: AW25479 MW-3

Lab Sample ID: 400-128652-15

Date Collected: 10/03/16 16:00

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279596	11/16/16 10:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279363	11/15/16 14:42	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	RTM	TAL SL

Client Sample ID: AW25480 EB-1

Lab Sample ID: 400-128652-16

Date Collected: 10/03/16 16:35

Matrix: Water

Date Received: 10/13/16 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			275157	10/19/16 12:32	AS	TAL SL
Total/NA	Analysis	9315		1	279596	11/16/16 10:53	RTM	TAL SL
Total/NA	Prep	PrecSep_0			275185	10/19/16 15:00	AS	TAL SL
Total/NA	Analysis	9320		1	279365	11/15/16 14:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	279787	11/17/16 12:20	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: 400-128652-2
SDG: Gorgas Gypsum (2)

Rad

Prep Batch: 275157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-128652-1	AW25481 MW-1L	Total/NA	Water	PrecSep-21	
400-128652-2	AW25483 MW-3L	Total/NA	Water	PrecSep-21	
400-128652-3	AW25482 MW-2L	Total/NA	Water	PrecSep-21	
400-128652-4	AW25484 MW-4L	Total/NA	Water	PrecSep-21	
400-128652-11	AW25475 MW-8	Total/NA	Water	PrecSep-21	
400-128652-12	AW25476 MW-4	Total/NA	Water	PrecSep-21	
400-128652-13	AW25477 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-128652-14	AW25478 FB-1	Total/NA	Water	PrecSep-21	
400-128652-15	AW25479 MW-3	Total/NA	Water	PrecSep-21	
400-128652-16	AW25480 EB-1	Total/NA	Water	PrecSep-21	
MB 160-275157/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-275157/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-128652-15 MS	AW25479 MW-3	Total/NA	Water	PrecSep-21	
400-128652-15 MSD	AW25479 MW-3	Total/NA	Water	PrecSep-21	

Prep Batch: 275185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-128652-1	AW25481 MW-1L	Total/NA	Water	PrecSep_0	
400-128652-2	AW25483 MW-3L	Total/NA	Water	PrecSep_0	
400-128652-3	AW25482 MW-2L	Total/NA	Water	PrecSep_0	
400-128652-4	AW25484 MW-4L	Total/NA	Water	PrecSep_0	
400-128652-11	AW25475 MW-8	Total/NA	Water	PrecSep_0	
400-128652-12	AW25476 MW-4	Total/NA	Water	PrecSep_0	
400-128652-13	AW25477 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-128652-14	AW25478 FB-1	Total/NA	Water	PrecSep_0	
400-128652-15	AW25479 MW-3	Total/NA	Water	PrecSep_0	
400-128652-16	AW25480 EB-1	Total/NA	Water	PrecSep_0	
MB 160-275185/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-275185/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-128652-15 MS	AW25479 MW-3	Total/NA	Water	PrecSep_0	
400-128652-15 MSD	AW25479 MW-3	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-275157/1-A
Matrix: Water
Analysis Batch: 279648

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275157

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1084	U	0.151	0.152	1.00	0.255	pCi/L	10/19/16 12:32	11/16/16 10:39	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		40 - 110					10/19/16 12:32	11/16/16 10:39	1

Lab Sample ID: LCS 160-275157/2-A
Matrix: Water
Analysis Batch: 279648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275157

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	14.8	19.02		2.00	1.00	0.301	pCi/L	129	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	88.9		40 - 110						

Lab Sample ID: 400-128652-15 MS
Matrix: Water
Analysis Batch: 279596

Client Sample ID: AW25479 MW-3
Prep Type: Total/NA
Prep Batch: 275157

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	0.348		14.8	18.39		1.96	1.00	0.320	pCi/L	122	75 - 138
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	79.2		40 - 110								

Lab Sample ID: 400-128652-15 MSD
Matrix: Water
Analysis Batch: 279596

Client Sample ID: AW25479 MW-3
Prep Type: Total/NA
Prep Batch: 275157

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	0.348		14.8	15.61		1.71	1.00	0.347	pCi/L	103	75 - 138	0.75	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	81.5		40 - 110										

QC Sample Results

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-275185/1-A
Matrix: Water
Analysis Batch: 279363

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275185

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3766	U	0.370	0.372	1.00	0.601	pCi/L	10/19/16 15:00	11/15/16 14:41	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		40 - 110					10/19/16 15:00	11/15/16 14:41	1
Y Carrier	86.4		40 - 110					10/19/16 15:00	11/15/16 14:41	1

Lab Sample ID: LCS 160-275185/2-A
Matrix: Water
Analysis Batch: 279363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275185

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	19.0	19.76		2.15	1.00	0.576	pCi/L	104	56 - 140
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	88.9		40 - 110						
Y Carrier	89.0		40 - 110						

Lab Sample ID: 400-128652-15 MS
Matrix: Water
Analysis Batch: 279363

Client Sample ID: AW25479 MW-3
Prep Type: Total/NA
Prep Batch: 275185

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	0.335	U	19.0	22.86		2.50	1.00	0.650	pCi/L	120	45 - 150
Carrier	MS %Yield	MS Qualifier	Limits								
Ba Carrier	79.2		40 - 110								
Y Carrier	81.9		40 - 110								

Lab Sample ID: 400-128652-15 MSD
Matrix: Water
Analysis Batch: 279363

Client Sample ID: AW25479 MW-3
Prep Type: Total/NA
Prep Batch: 275185

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	0.335	U	19.0	18.66		2.06	1.00	0.587	pCi/L	98	45 - 150	0.92	1
Carrier	MSD %Yield	MSD Qualifier	Limits										
Ba Carrier	81.5		40 - 110										
Y Carrier	89.7		40 - 110										

TestAmerica Pensacola
 3355 McLeimore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information Alabama Power General Test Laboratory 744 County Rd 87 GSC #8 Calera State, Zip: AL, 35040 Phone: 205-864-6121 (Tel) Email: sgcopella@southernco.com Project Name: CCR Site: Gorgas Gypsum (2)		Due Date Requested: TAT Requested (days): PO #: WO #: Project #: 4007143 SSOW#:		Sampler: Jason Rouss Phone: as PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com		Center Tracking No(s): COC No: 400-56825-24637.1 Page: 1 of 1 Job #: 400-123652											
Analysis Requested 9315, Ra228, 9320, Ra228, Ra228Ra228, GPFC				Preservation Codes: M- Hexane N- None O- AsNaO2 P- Na2CO3 Q- Na2SO3 R- Na2SO4 S- H2SO4 H- Ascorbic Acid U- Acetone I- Ice J- Di Water K- EDTA L- EDA Z- other (specify)													
Sample Identification AW25475 AW25476 AW25477 AW25478 AW25479 AW25480 AW25481 AW25482 AW25483 AW25484		Sample Date 10/3/16 10/3/16 10/3/16 10/3/16 10/3/16 10/3/16 10/3/16 10/4/16 10/3/16		Sample Time 1250 1440 1440 1500 1600 1635 1129 1232 1103 1440		Sample Type (C=comp, G=grab) G G G G G G G G G		Matrix (W=water, S=solid, O=organic) Water Water Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) X X X X Y X X X X		Performance/MSD (Yes or No) X X X X Y X X X X		Total Number of Containers 1 1 1 1 3 1 1 1 1 1		Special Instructions/Note: MW-8 MW-4 MW-4 Dup (sample Duplicate) FB-1 (Field Blank) MW-3 EB-1 (Equipment Blank) MW-1L MW-2L MW-3L MW-4L	
Possible Hazard Identification <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)																	
Empty Kit Relinquished by: Sarah Copeland Relinquished by: Sarah Copeland Relinquished by: Relinquished by:																	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:																	
Special Instructions/QC Requirements: 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 Method of Shipment:																	
Received by: [Signature] Date/Time: 10/13/16 1530 Company:																	
Received by: Date/Time: Company:																	
Received by: Date/Time: Company:																	
Cooler Temperature(s) °C and Other Remarks:																	



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-128652-2
SDG Number: Gorgas Gypsum (2)

Login Number: 128652

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	Thermal preservation not required.
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	



Certification Summary

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

TestAmerica Job ID: 400-128652-2
 SDG: Gorgas Gypsum (2)

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-17
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-16
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-16
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-17
Rhode Island	State Program	1	LAO00307	12-30-16
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	003757	11-30-16 *
Iowa	State Program	7	373	12-01-16 *
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-16
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA160008	12-31-16 *
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542016-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17
New York	NELAP	2	11616	03-31-17
North Dakota	State Program	8	R207	06-30-17

* Certification renewal pending - certification considered valid.

Certification Summary

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

TestAmerica Job ID: 400-128652-2
SDG: Gorgas Gypsum (2)

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-17 *
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-14-0016	01-09-17
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17

* Certification renewal pending - 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

Analytical Report

 Alabama Power



Sample Group : WMWGORG_1054

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1054

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>Chloride Batch ID</u>	<u>Fluoride Batch ID</u>	<u>Sulfate Batch ID</u>	<u>Project ID</u>
AW26971	580174	580178	580182	WMWGORG_1054
AW26972	580174	580178	580182	WMWGORG_1054
AW26973	580174	580178	580182	WMWGORG_1054
AW26974	580174	580178	580182	WMWGORG_1054
AW27035	580174	580178	580182	WMWGORG_1054
AW27036	580175	580179	580183	WMWGORG_1054
AW27037	580175	580179	580183	WMWGORG_1054
AW27038	580175	580179	580183	WMWGORG_1054
AW27039	580175	580179	580183	WMWGORG_1054
AW27040	580175	580179	580183	WMWGORG_1054

4. All of the above samples were analyzed and prepared by EPA 300.0.
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 instrument performance check (IPC) was analyzed and all criteria were met.
- All laboratory reagent blanks were less than the method detection limits for the requested anions, with the following exceptions:
 1. The blank for anion fluoride in batch 580178 presented a negative concentration greater than the MDL value of 0.01 mg/L, at -0.051 mg/L, and the blank for anion sulfate in batch 580182 presented a negative concentration greater than the RL of 1.0, at -1.526 mg/L. Four batch samples (AW26971, AW26972, AW26974 and AW27035) presented positive fluoride concentrations below 10x the absolute value of the fluoride blank, and should be considered as quantitatively estimated concentrations with the potential for low bias on the reported result values. All batch sample sulfate concentrations were greater than 10x the absolute value of the sulfate blank, and no blank qualifications for sulfate are necessary.
 2. The blank for anion sulfate in batch 580183 presented a negative concentration greater than the RL of 1.0, at -1.572 mg/L. Two batch samples (AW27037 and AW27040) presented negative sulfate concentrations below 10x the absolute value of the sulfate blank, and should be considered as quantitatively estimated non-detect concentrations, with the potential for low bias on the reported RL values.



- All laboratory fortified blanks (LFB) were within acceptance criteria for the anions requested, with the following exceptions:
 1. The closing LFB for anion fluoride in batch 580178 recovered below the lower limit of 90% (at 89%). All batch samples for fluoride (AW26971 - AW26974, inclusive, and AW27035) should be considered as quantitatively estimated concentrations with indication of potential low bias on the reported result values.
 2. No opening LFB for the dilution re-analysis sample for sulfate in batch 580182 on 10/31/16 was listed or run; due to absence of an opening LFB, the reported result for sulfate in sample AW26974 is qualified as quantitatively estimated with indeterminate bias direction and magnitude.
 3. The opening LFB for anion fluoride in batch 580179 recovered below the lower limit of 90% (at 89%). All batch samples for fluoride (AW27036 - AW27040, inclusive) should be considered as quantitatively estimated concentrations with indication of potential low bias on the reported result values, or as quantitatively estimated non-detect concentrations with indication of potential low bias on the reported RL values, as applicable.
- 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 laboratory fortified matrix (LFM) sample was analyzed with each batch. All acceptance criteria for accuracy were met. It is noted that the LFM for sulfate in batch 580182 was diluted prior to spiking, and the diluted LFM sample was spiked at 50x normal concentration, with acceptable recovery.
- A sample duplicate and/or laboratory fortified matrix duplicate were analyzed with each batch. All acceptance criteria for precision were met. It is noted that separate and distinct criteria for duplicate precision calculations, based on sample and duplicate anion concentrations, are used to assess precision compliance. These are as follow: if the sample and duplicate are both greater than 5x anion Reporting Limit (RL) concentration, the precision is calculated and reported as relative percent difference (RPD), with an acceptance range of 0 - 20%; if either the sample or duplicate are less than 5x anion RL, the precision is calculated and reported as the absolute value of the difference between the two concentrations, with an acceptance range of less than or equal to the anion RL value.



7. Sample AW26973 was re-analyzed for chloride and sulfate at a 10x dilution, sample AW26974 was re-analyzed for sulfate at a 20x dilution, samples AW26971 and AW26972 were re-analyzed for chloride and sulfate at a 30x dilution, and samples AW27035, AW27036, AW27038 and AW27039 were re-analyzed for sulfate at a 50x dilution, due to undiluted results exceeding the calibrated range of the detector. The dilution results for chloride and sulfate for these respective samples should be used; reporting limit (RL) values are adjusted upward to reflect the dilution factor applied.

<u>Sample ID</u>		<u>Analyte</u>		<u>Dilution Factor</u>
AW26971		Chloride, Sulfate		30X
AW26972		Chloride, Sulfate		30X
AW26973		Chloride, Sulfate		10X
AW26974		Sulfate		20X
AW27035		Sulfate		50X
AW27036		Sulfate		50X
AW27038		Sulfate		50X
AW27039		Sulfate		50X

8. The raw data results are shown with dilution factors included, when dilutions are manually performed by the analyst.
The raw data results are shown without dilution factor corrections, when dilutions are run automatically by the instrument.



Metals ICP

Gorgas Gypsum

WMWGORG_1054

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW26971	20161121B_20161228D_20170119	WMWGORG_1054
AW26972	20161121B_20161228D_20170119	WMWGORG_1054
AW26973	20161121B_20161228D_20170119	WMWGORG_1054
AW26974	20161121B_20161228D_20170119	WMWGORG_1054
AW27035	20161121B_20161228D_20170119	WMWGORG_1054
AW27036	20161121B_20161228D_20170119	WMWGORG_1054
AW27037	20161121B_20161228D_20170119	WMWGORG_1054
AW27038	20161121B_20161228D_20170119	WMWGORG_1054
AW27039	20161121C	WMWGORG_1054
AW27040	20161121C	WMWGORG_1054

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

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes, with the exception of Lithium in batch 20161228D. Matrix issues were resolved and samples (AW26971-74 & AW27035-38) were re-prepared and re-analyzed in batch 20170119C with passing QC.
- 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, with the following exceptions:



Analyte

Correction

Boron

Samples in batch 20161121B were re-prepared per TSOP and re-analyzed in data file 20161228D with all passing QC.

Lithium

Samples in batch 20161121B were re-prepared per TSOP and re-analyzed in data file 20161228D. CCV for lithium failed. Samples were re-prepared per TSOP and analyzed in data file 20170119C after matrix issues with system resolved. All corresponding QC passed.

- 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 with the following exceptions:

Analyte

Sample ID

Calcium

AW27038

The concentration of these analyte in the matrix spike was less than 30 percent of the concentration of the sample, causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- 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 without a dilution, with the following exceptions: AW26971-74 & AW27035-38 were run at a 5X dilution for Lithium to compensate for matrix effects. The following samples were diluted due to sample concentrations from the undiluted analysis were over the high standard of the calibration curve.



<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW26971	Calcium	100X
AW26972	Calcium	100X
AW26973	Calcium	10X
AW26974	Calcium	10X
AW27035	Calcium	10X
AW27036	Calcium	10X
AW27038	Calcium	10X
AW27038MS	Calcium	10X
AW27038MSD	Calcium	10X
AW27038	Lithium	12.5X
AW27039	Calcium	10X

8. The raw data results include both results corrected for dilution and results not corrected for dilution.



Metals ICPMS

Gorgas Gypsum

WMWGORG_1054

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW26971	581365	WMWGORG_1054
AW26972	581365	WMWGORG_1054
AW26973	581365	WMWGORG_1054
AW26974	581365	WMWGORG_1054
AW27035	581365	WMWGORG_1054
AW27036	581365	WMWGORG_1054
AW27037	581365	WMWGORG_1054
AW27038	581378	WMWGORG_1054
AW27039	581378	WMWGORG_1054
AW27040	581378	WMWGORG_1054

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_1054

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW26971	581465	WMWGORG_1054
AW26972	581465	WMWGORG_1054
AW26973	581465	WMWGORG_1054
AW26974	581465	WMWGORG_1054
AW27035	581465	WMWGORG_1054
AW27036	581465	WMWGORG_1054
AW27037	581551	WMWGORG_1054
AW27038	581551	WMWGORG_1054
AW27039	581551	WMWGORG_1054
AW27040	581551	WMWGORG_1054

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_1054

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW26971	580170	WMWGORG_1054
AW26972	580170	WMWGORG_1054
AW26973	580170	WMWGORG_1054
AW26974	580170	WMWGORG_1054
AW27035	580189	WMWGORG_1054
AW27036	580189	WMWGORG_1054
AW27037	580189	WMWGORG_1054
AW27038	580189	WMWGORG_1054
AW27039	580189	WMWGORG_1054
AW27040	580189	WMWGORG_1054

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 0.5 mg 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 2.5 mg and 200 mg residue with the exception of AW27037 and AW27040 which were <2.5mg.

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW26971

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0122	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	J 0.000922	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7		1	0.02	0.1	1.23	mg/L
* Calcium, Total	HRG	11/22/2016	EPA 200.7		100	10.0	50.0	916	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0505	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/10/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7		5	0.01	0.05	0.416	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		250	5020	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		30	1.20	7.50	249	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	J 0.182	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		30	9.0	30	2790	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW26971

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27037 Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20	
AW27037 Barium, Total	mg/L	0.00000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20	
AW27037 Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20	
AW27037 Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20	
AW27036 Mercury, Total by CVAA	mg/L	0.000130	0.0005	0.004	0.00388	0.00388	0.00401	0.0034 to 0.0046	97.0	70 to 130	0.0361	20	
AW27037 Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20	
AW27037 Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	20	
AW27037 Chromium, Total	mg/L	0.00000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20	
AW27037 Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27037 Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20	
AW27037 Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20	
AW27037 Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW26971

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW27035	Sulfate, Total	mg/L	-1.53	1.0	1000	2500	1340	20.2	18 to 22	117	80 to 120	0.749	20
AW26974	Solids, Dissolved	mg/L	-3.0	25			2400	41.0	40 to 60			1.05	5
AW27035	Fluoride, Total	mg/L	-0.051	0.3	2.00	1.69	0.047		1.8 to 2.2	82.0	80 to 120	6.19	20
AW27035	Chloride, Total	mg/L	0.00	0.25	10.00	12.2	2.33	9.80	9 to 11	98.6	80 to 120	0.428	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-3 Dup

Laboratory ID Number: AW26972

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0118	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	J 0.000811	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7		1	0.02	0.1	1.26	mg/L
* Calcium, Total	HRG	11/22/2016	EPA 200.7		100	10.0	50.0	1046	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0508	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/10/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7		5	0.01	0.05	0.395	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		250	5020	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		30	1.20	7.50	251	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	J 0.183	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		30	9.0	30	2830	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-3 Dup

Laboratory ID Number: AW26972

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27037 Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20	
AW27037 Barium, Total	mg/L	0.00000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20	
AW27037 Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20	
AW27037 Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20	
AW27037 Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20	
AW27037 Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	20	
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27037 Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20	
AW27037 Chromium, Total	mg/L	0.00000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20	
AW27037 Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	
AW27036 Mercury, Total by CVAA	mg/L	0.000130	0.0005	0.004	0.00388	0.00388	0.00401	0.0034 to 0.0046	97.0	70 to 130	0.0361	20	
AW27037 Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20	
AW27037 Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-3 Dup

Laboratory ID Number: AW26972

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW27035	Sulfate, Total	mg/L	-1.53	1.0	1000	2500		1340	20.2	18 to 22	117	80 to 120	0.749	20
AW27035	Chloride, Total	mg/L	0.00	0.25	10.00	12.2		2.33	9.80	9 to 11	98.6	80 to 120	0.428	20
AW26974	Solids, Dissolved	mg/L	-3.0	25				2400	41.0	40 to 60			1.05	5
AW27035	Fluoride, Total	mg/L	-0.051	0.3	2.00	1.69		0.047		1.8 to 2.2	82.0	80 to 120	6.19	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, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW26973

Name	Analyst	Test Date	Reference	Vio	Spec	DF	MDL	RL	Q	Results	Units
Radiological											
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320			1				Attached	
Metals, Cyanide, Total Phenols											
* Antimony, Total	JHK	11/14/2016	EPA 200.8			5	0.00060	0.0030	U	Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8			5	0.0010	0.005	U	Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010		0.0118	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8			5	0.00060	0.0030		0.00459	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7			1	0.02	0.1		4.96	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7			10	1.0	5.0		88.7	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8			5	0.0002	0.0010		0.00157	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010		0.154	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/10/2016	EPA 245.1			1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7			5	0.01	0.05		0.298	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8			5	0.0010	0.005	U	Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	J	0.00266	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8			5	0.00020	0.0010	U	Not Detected	mg/L
General Characteristics											
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C			1		100		1030	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0			10	0.40	2.50		115	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0			1	0.01	0.3		0.578	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0			10	3.0	10		585	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW26973

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27037 Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20	
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27037 Barium, Total	mg/L	0.00000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20	
AW27037 Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20	
AW27037 Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20	
AW27037 Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20	
AW27037 Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27037 Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20	
AW27037 Chromium, Total	mg/L	0.00000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20	
AW27037 Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	
AW27036 Mercury, Total by CVAA	mg/L	0.000130	0.0005	0.004	0.00388	0.00388	0.00401	0.0034 to 0.0046	97.0	70 to 130	0.0361	20	
AW27037 Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20	
AW27037 Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW26973

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW27035	Sulfate, Total	mg/L	-1.53	1.0	1000	2500		1340	20.2	18 to 22	117	80 to 120	0.749	20
AW27035	Chloride, Total	mg/L	0.00	0.25	10.00	12.2		2.33	9.80	9 to 11	98.6	80 to 120	0.428	20
AW27035	Fluoride, Total	mg/L	-0.051	0.3	2.00	1.69		0.047		1.8 to 2.2	82.0	80 to 120	6.19	20
AW26974	Solids, Dissolved	mg/L	-3.0	25				2400	41.0	40 to 60			1.05	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW26974

Name	Analyst	Test Date	Reference	Vio	Spec	DF	MDL	RL	Q	Results	Units
Radiological											
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320			1				Attached	
Metals, Cyanide, Total Phenols											
* Antimony, Total	JHK	11/14/2016	EPA 200.8			5	0.00060	0.0030	U	Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8			5	0.0010	0.005	J	0.00110	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010		0.0562	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8			5	0.00060	0.0030	U	Not Detected	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7			1	0.02	0.1	J	0.0889	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7			10	1.0	5.0		235	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8			5	0.0002	0.0010	U	Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010		0.0253	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/10/2016	EPA 245.1			1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7			5	0.01	0.05		0.0681	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8			5	0.0010	0.005	U	Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8			5	0.00020	0.0010	U	Not Detected	mg/L
General Characteristics											
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C			1		125		2350	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0			1	0.04	0.25		4.08	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0			1	0.01	0.3	J	0.056	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0			20	6.0	20		1240	mg/L

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW26974

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27037 Barium, Total	mg/L	0.0000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20	
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27037 Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20	
AW27037 Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20	
AW27037 Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20	
AW27036 Mercury, Total by CVAA	mg/L	0.000130	0.0005	0.004	0.00388	0.00388	0.00401	0.0034 to 0.0046	97.0	70 to 130	0.0361	20	
AW27037 Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20	
AW27037 Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	20	
AW27037 Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20	
AW27037 Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27037 Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20	
AW27037 Chromium, Total	mg/L	0.00000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20	
AW27037 Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 26-Oct-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW26974

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW27035	Sulfate, Total	mg/L	-1.53	1.0	1000	2500	1340	20.2	18 to 22	117	80 to 120	0.749	20
AW27035	Chloride, Total	mg/L	0.00	0.25	10.00	12.2	2.33	9.80	9 to 11	98.6	80 to 120	0.428	20
AW26974	Solids, Dissolved	mg/L	-3.0	25			2400	41.0	40 to 60			1.05	5
AW27035	Fluoride, Total	mg/L	-0.051	0.3	2.00	1.69	0.047		1.8 to 2.2	82.0	80 to 120	6.19	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

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 FAX (205) 257-1654

Certificate Of Analysis Alabama Power



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AW27035

Name	Analyst	Test Date	Reference	Vio	Spec	DF	MDL	RL	Q	Results	Units
Radiological											
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320			1				Attached	
Metals, Cyanide, Total Phenols											
* Antimony, Total	JHK	11/14/2016	EPA 200.8			5	0.00060	0.0030	U	Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8			5	0.0010	0.005	U	Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	J	0.00931	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8			5	0.00060	0.0030	U	Not Detected	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7			1	0.02	0.1	J	0.0241	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7			10	1.0	5.0		133	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8			5	0.0002	0.0010		0.00175	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010		0.0527	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/10/2016	EPA 245.1			1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7			5	0.01	0.05	J	0.0227	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8			5	0.0010	0.005	U	Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8			5	0.0020	0.010	U	Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8			5	0.00020	0.0010	U	Not Detected	mg/L
General Characteristics											
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C			1		100		2000	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0			1	0.04	0.25		2.34	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0			1	0.01	0.3	J	0.050	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0			50	15.0	50		1330	mg/L

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Comments:

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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AW27035

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27037 Barium, Total	mg/L	0.00000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20	
AW27037 Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20	
AW27037 Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20	
AW27037 Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20	
AW27036 Mercury, Total by CVAA	mg/L	0.000130	0.0005	0.004	0.00388	0.00388	0.00401	0.0034 to 0.0046	97.0	70 to 130	0.0361	20	
AW27037 Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20	
AW27037 Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	20	
AW27037 Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20	
AW27037 Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27037 Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20	
AW27037 Chromium, Total	mg/L	0.00000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20	
AW27037 Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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

Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AW27035

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW27035	Chloride, Total	mg/L	0.00	0.25	10.00	12.2	2.33	9.80	9 to 11	98.6	80 to 120	0.428	20	
AW27039	Solids, Dissolved	mg/L	0.00	25			4350	52.0	40 to 60			0.571	5	
AW27035	Fluoride, Total	mg/L	-0.051	0.3	2.00	1.69	0.047		1.8 to 2.2	82.0	80 to 120	6.19	20	
AW27035	Sulfate, Total	mg/L	-1.53	1.0	1000	2500	1340	20.2	18 to 22	117	80 to 120	0.749	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AW27036

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0138	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7		1	0.02	0.1	J 0.0331	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7		10	1.0	5.0	171	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0904	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/10/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7		5	0.01	0.05	J 0.0293	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		100	1800	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		1	0.04	0.25	3.35	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	J 0.027	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		50	15.0	50	1060	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AW27036

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AW27037	Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20
AW27038	Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20
AW27037	Barium, Total	mg/L	0.00000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20
AW27036	Mercury, Total by CVAA	mg/L	0.000130	0.0005	0.004	0.00388	0.00388	0.00401	0.0034 to 0.0046	97.0	70 to 130	0.0361	20
AW27037	Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20
AW27037	Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	20
AW27037	Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20
AW27037	Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20
AW27037	Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20
AW27037	Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	20
AW27037	Chromium, Total	mg/L	0.00000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20
AW27037	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20
AW27038	Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20
AW27037	Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20
AW27037	Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AW27036

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW27040	Chloride, Total	mg/L	0.00	0.25	10.00	10.0	0.00	9.85	9 to 11	100	80 to 120	0	20
AW27040	Fluoride, Total	mg/L	0.00	0.3	2.00	1.88	-0.050	1.90	1.8 to 2.2	94.0	80 to 120	0	20
AW27039	Solids, Dissolved	mg/L	0.00	25			4350	52.0	40 to 60			0.571	5
AW27040	Sulfate, Total	mg/L	-1.57	1.0	20.00	20.1	-1.42	20.0	18 to 22	100	80 to 120	0	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW27037

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7		1	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7		1	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/15/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7		5	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW27037

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27037 Barium, Total	mg/L	0.0000874	0.0044	0.10	0.0958	0.0948	0.0954	0.085 to 0.115	95.8	70 to 130	1.05	20	
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27037 Antimony, Total	mg/L	0.0000949	0.00132	0.10	0.0923	0.0948	0.0927	0.085 to 0.115	92.3	70 to 130	2.78	20	
AW27037 Thallium, Total	mg/L	0.0000761	0.00044	0.10	0.0906	0.0900	0.0994	0.085 to 0.115	90.6	70 to 130	0.669	20	
AW27037 Lead, Total	mg/L	0.0000912	0.0022	0.10	0.0909	0.0900	0.0981	0.085 to 0.115	90.9	70 to 130	1.03	20	
AW27037 Selenium, Total	mg/L	0.0000293	0.0044	0.10	0.0979	0.0981	0.101	0.085 to 0.115	97.9	70 to 130	0.196	20	
AW27037 Beryllium, Total	mg/L	0.000142	0.00132	0.10	0.0953	0.0930	0.103	0.085 to 0.115	95.3	70 to 130	2.47	20	
AW27426 Mercury, Total by CVAA	mg/L	0.0000581	0.0005	0.004	0.00379	0.00384	0.00393	0.0034 to 0.0046	94.9	70 to 130	1.10	20	
AW27037 Chromium, Total	mg/L	0.0000918	0.0044	0.10	0.0877	0.0893	0.0920	0.085 to 0.115	87.7	70 to 130	1.81	20	
AW27037 Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0909	0.0919	0.0944	0.085 to 0.115	90.9	70 to 130	1.12	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	
AW27037 Arsenic, Total	mg/L	0.0000150	0.0022	0.10	0.0931	0.0952	0.1000	0.085 to 0.115	93.1	70 to 130	2.25	20	
AW27037 Cadmium, Total	mg/L	0.00000124	0.00044	0.10	0.0934	0.0947	0.0975	0.085 to 0.115	93.4	70 to 130	1.45	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27037 Molybdenum, Total	mg/L	0.0000219	0.0044	0.10	0.0917	0.0924	0.0917	0.085 to 0.115	91.7	70 to 130	0.739	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW27037

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec			Prec
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW27040	Fluoride, Total	mg/L	0.00	0.3	2.00	1.88	-0.050	1.90	1.8 to 2.2	94.0	80 to 120	0	20
AW27040	Chloride, Total	mg/L	0.00	0.25	10.00	10.0	0.00	9.85	9 to 11	100	80 to 120	0	20
AW27039	Solids, Dissolved	mg/L	0.00	25			4350	52.0	40 to 60			0.571	5
AW27040	Sulfate, Total	mg/L	-1.57	1.0	20.00	20.1	-1.42	20.0	18 to 22	100	80 to 120	0	20

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Comments:

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Alabama Power General Test Laboratory
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 FAX (205) 257-1654

Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW27038

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	J 0.00878	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	0.00710	mg/L
* Boron, Total	HRG	12/28/2016	EPA 200.7		1	0.02	0.1	J 0.0375	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7		10	1.0	5.0	254	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	0.00136	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.236	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/15/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/19/2017	EPA 200.7		12.5	0.025	0.125	0.134	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	J 0.000209	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		125	2940	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		1	0.04	0.25	1.27	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	J 0.266	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		50	15.0	50	1980	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 12/27/16

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW27038

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27426 Mercury, Total by CVAA	mg/L	0.0000581	0.0005	0.004	0.00379	0.00384	0.00393	0.0034 to 0.0046	94.9	70 to 130	1.10	20	
AW27427 Cobalt, Total	mg/L	0.0000133	0.0044	0.10	0.0892	0.0893	0.0927	0.085 to 0.115	89.2	70 to 130	0.134	20	
AW27427 Thallium, Total	mg/L	0.0000705	0.00044	0.10	0.0922	0.0874	0.0984	0.085 to 0.115	92.2	70 to 130	5.34	20	
AW27427 Antimony, Total	mg/L	0.000103	0.00132	0.10	0.0942	0.0940	0.0919	0.085 to 0.115	94.2	70 to 130	0.240	20	
AW27427 Arsenic, Total	mg/L	0.0000255	0.0022	0.10	0.0964	0.0949	0.0980	0.085 to 0.115	96.4	70 to 130	1.60	20	
AW27038 Boron, Total	mg/L	-0.00164	0.044	1.00	1.07	1.06	0.995	0.85 to 1.15	104	70 to 130	1.45	20	
AW27427 Molybdenum, Total	mg/L	0.0000271	0.0044	0.10	0.0904	0.0937	0.0926	0.085 to 0.115	90.4	70 to 130	3.52	20	
AW27038 Calcium, Total	mg/L	-0.0271	0.22	5.00	254	260	4.67	4.25 to 5.75	6.46	70 to 130	2.33	20	
AW27427 Beryllium, Total	mg/L	0.000145	0.00132	0.10	0.0953	0.0885	0.0986	0.085 to 0.115	95.3	70 to 130	7.39	20	
AW27427 Cadmium, Total	mg/L	0.0000206	0.00044	0.10	0.0902	0.0940	0.0967	0.085 to 0.115	90.2	70 to 130	4.14	20	
AW27427 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0873	0.0875	0.0897	0.085 to 0.115	87.3	70 to 130	0.211	20	
AW27427 Lead, Total	mg/L	0.0000767	0.0022	0.10	0.0920	0.0865	0.0972	0.085 to 0.115	92.0	70 to 130	6.21	20	
AW27037 Lithium, Total	mg/L	-0.000573	0.022	0.20	0.199	0.195	0.220	0.17 to 0.23	99.5	70 to 130	1.99	20	
AW27427 Barium, Total	mg/L	0.0000254	0.0044	0.10	0.193	0.194	0.0972	0.085 to 0.115	92.3	70 to 130	0.608	20	
AW27427 Selenium, Total	mg/L	0.0000366	0.0044	0.10	0.0926	0.0973	0.101	0.085 to 0.115	92.6	70 to 130	4.97	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 12/27/16

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW27038

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample		LFB Limit	Rec		Prec Limit	
							Duplicate	LFB		Rec	Limit		Prec
AW27040	Chloride, Total	mg/L	0.00	0.25	10.00	10.0	0.00	9.85	9 to 11	100	80 to 120	0	20
AW27040	Fluoride, Total	mg/L	0.00	0.3	2.00	1.88	-0.050	1.90	1.8 to 2.2	94.0	80 to 120	0	20
AW27039	Solids, Dissolved	mg/L	0.00	25			4350	52.0	40 to 60			0.571	5
AW27040	Sulfate, Total	mg/L	-1.57	1.0	20.00	20.1	-1.42	20.0	18 to 22	100	80 to 120	0	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, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 12/27/16

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW27039

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	0.0104	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	11/21/2016	EPA 200.7		1	0.02	0.1	J 0.0507	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7		10	1.0	5.0	311	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/15/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	11/21/2016	EPA 200.7		1	0.01	0.05	J 0.0490	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		250	4400	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		1	0.04	0.25	2.07	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	J 0.194	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		50	15.0	50	2650	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW27039

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27426 Mercury, Total by CVAA	mg/L	0.0000581	0.0005	0.004	0.00379	0.00384	0.00393	0.0034 to 0.0046	94.9	70 to 130	1.10	20	
AW27427 Molybdenum, Total	mg/L	0.0000271	0.0044	0.10	0.0904	0.0937	0.0926	0.085 to 0.115	90.4	70 to 130	3.52	20	
AW27427 Cobalt, Total	mg/L	0.0000133	0.0044	0.10	0.0892	0.0893	0.0927	0.085 to 0.115	89.2	70 to 130	0.134	20	
AW27427 Thallium, Total	mg/L	0.0000705	0.00044	0.10	0.0922	0.0874	0.0984	0.085 to 0.115	92.2	70 to 130	5.34	20	
AW27428 Boron, Total	mg/L	0.00212	0.044	1.00	4.20	4.20	0.945	0.85 to 1.15	95.5	70 to 130	0.00	20	
AW27427 Barium, Total	mg/L	0.0000254	0.0044	0.10	0.193	0.194	0.0972	0.085 to 0.115	92.3	70 to 130	0.608	20	
AW27427 Selenium, Total	mg/L	0.0000366	0.0044	0.10	0.0926	0.0973	0.101	0.085 to 0.115	92.6	70 to 130	4.97	20	
AW27427 Beryllium, Total	mg/L	0.000145	0.00132	0.10	0.0953	0.0885	0.0986	0.085 to 0.115	95.3	70 to 130	7.39	20	
AW27427 Cadmium, Total	mg/L	0.0000206	0.00044	0.10	0.0902	0.0940	0.0967	0.085 to 0.115	90.2	70 to 130	4.14	20	
AW27427 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0873	0.0875	0.0897	0.085 to 0.115	87.3	70 to 130	0.211	20	
AW27427 Lead, Total	mg/L	0.0000767	0.0022	0.10	0.0920	0.0865	0.0972	0.085 to 0.115	92.0	70 to 130	6.21	20	
AW27428 Calcium, Total	mg/L	-0.0887	0.22	5.00	164	164	4.67	4.25 to 5.75	37.2	70 to 130	0.00	20	
AW27428 Lithium, Total	mg/L	0.000354	0.022	0.20	0.292	0.293	0.196	0.17 to 0.23	108	70 to 130	0.342	20	
AW27427 Antimony, Total	mg/L	0.000103	0.00132	0.10	0.0942	0.0940	0.0919	0.085 to 0.115	94.2	70 to 130	0.240	20	
AW27427 Arsenic, Total	mg/L	0.0000255	0.0022	0.10	0.0964	0.0949	0.0980	0.085 to 0.115	96.4	70 to 130	1.60	20	

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Comments:

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW27039

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW27040	Chloride, Total	mg/L	0.00	0.25	10.00	10.0		0.00	9.85	9 to 11	100	80 to 120	0	20
AW27040	Fluoride, Total	mg/L	0.00	0.3	2.00	1.88		-0.050	1.90	1.8 to 2.2	94.0	80 to 120	0	20
AW27039	Solids, Dissolved	mg/L	0.00	25				4350	52.0	40 to 60			0.571	5
AW27040	Sulfate, Total	mg/L	-1.57	1.0	20.00	20.1		-1.42	20.0	18 to 22	100	80 to 120	0	20

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Expiration: June 30, 2017

Comments:

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Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW27040

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	12/28/2016	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	JHK	11/14/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	11/21/2016	EPA 200.7		1	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	11/21/2016	EPA 200.7		1	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	11/14/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/15/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	11/21/2016	EPA 200.7		1	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/14/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/14/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/14/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	10/31/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	10/28/2016	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	10/28/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	10/28/2016	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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 Calera, AL 35040
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 FAX (205) 257-1654

Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW27040

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW27428 Boron, Total	mg/L	0.00212	0.044	1.00	4.20	4.20	0.945	0.85 to 1.15	95.5	70 to 130	0.00	20	
AW27426 Mercury, Total by CVAA	mg/L	0.0000581	0.0005	0.004	0.00379	0.00384	0.00393	0.0034 to 0.0046	94.9	70 to 130	1.10	20	
AW27427 Molybdenum, Total	mg/L	0.0000271	0.0044	0.10	0.0904	0.0937	0.0926	0.085 to 0.115	90.4	70 to 130	3.52	20	
AW27427 Cobalt, Total	mg/L	0.0000133	0.0044	0.10	0.0892	0.0893	0.0927	0.085 to 0.115	89.2	70 to 130	0.134	20	
AW27427 Thallium, Total	mg/L	0.0000705	0.00044	0.10	0.0922	0.0874	0.0984	0.085 to 0.115	92.2	70 to 130	5.34	20	
AW27427 Beryllium, Total	mg/L	0.000145	0.00132	0.10	0.0953	0.0885	0.0986	0.085 to 0.115	95.3	70 to 130	7.39	20	
AW27427 Cadmium, Total	mg/L	0.0000206	0.00044	0.10	0.0902	0.0940	0.0967	0.085 to 0.115	90.2	70 to 130	4.14	20	
AW27427 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0873	0.0875	0.0897	0.085 to 0.115	87.3	70 to 130	0.211	20	
AW27427 Lead, Total	mg/L	0.0000767	0.0022	0.10	0.0920	0.0865	0.0972	0.085 to 0.115	92.0	70 to 130	6.21	20	
AW27428 Calcium, Total	mg/L	-0.0887	0.22	5.00	164	164	4.67	4.25 to 5.75	37.2	70 to 130	0.00	20	
AW27428 Lithium, Total	mg/L	0.000354	0.022	0.20	0.292	0.293	0.196	0.17 to 0.23	108	70 to 130	0.342	20	
AW27427 Barium, Total	mg/L	0.0000254	0.0044	0.10	0.193	0.194	0.0972	0.085 to 0.115	92.3	70 to 130	0.608	20	
AW27427 Selenium, Total	mg/L	0.0000366	0.0044	0.10	0.0926	0.0973	0.101	0.085 to 0.115	92.6	70 to 130	4.97	20	
AW27427 Antimony, Total	mg/L	0.000103	0.00132	0.10	0.0942	0.0940	0.0919	0.085 to 0.115	94.2	70 to 130	0.240	20	
AW27427 Arsenic, Total	mg/L	0.0000255	0.0022	0.10	0.0964	0.0949	0.0980	0.085 to 0.115	96.4	70 to 130	1.60	20	

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 26-Oct-16
 Customer ID:
 Delivery Date: 27-Oct-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW27040

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	LFB	Rec	Prec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Rec	Limit	Prec	
AW27040	Chloride, Total	mg/L	0.00	0.25	10.00	10.0	0.00	9.85	9 to 11	100	80 to 120	0	20
AW27040	Fluoride, Total	mg/L	0.00	0.3	2.00	1.88	-0.050	1.90	1.8 to 2.2	94.0	80 to 120	0	20
AW27039	Solids, Dissolved	mg/L	0.00	25			4350	52.0	40 to 60			0.571	5
AW27040	Sulfate, Total	mg/L	-1.57	1.0	20.00	20.1	-1.42	20.0	18 to 22	100	80 to 120	0	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

 Field Complete

 Lab Complete

 Lab ETA

Requested Complete Date	<input type="text" value="Routine"/>	Results To	<input type="text" value="Dustin Brooks, John Pugh, Greg Dyer"/>
Site Representative	<input type="text" value="Che George"/>	Requested By	<input type="text" value="Greg Dyer"/>
Collector	<input type="text" value="Jason Rouss"/>	Location	<input type="text" value="Gorgas Gypsum"/>
Analysis Requested	<input type="text" value="Bottle 1: Radium 226 & 228 (1) 1L bottle, Bottle 2: Metals and Hg (1) 500 mL bottle, Bottle 3: TDS and Anions (1) 500 mL bottle"/>		
Comments	<input type="text"/>		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-1L	10/26/2016	09:30	3	Groundwater		AW27035
MW-2L	10/26/2016	10:54	3	Groundwater		AW27036
FB-1	10/26/2016	11:05	3	Field Blank		AW27037
MW-3L	10/26/2016	13:00	3	Groundwater		AW27038
MW-4L	10/26/2016	14:18	3	Groundwater		AW27039
EB-1	10/26/2016	14:30	3	Equipment Blank		AW27040

Relinquished By	Received By	Date/Time
	Sarah Copeland <small>Digitally signed by Sarah Copeland Date: 2016.10.27 11:15:20 -05'00'</small>	10/27/2016 11:15

SmarTroll ID	<input type="text" value="4696-23444-3-3"/>	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	<input type="text" value="4677-23342-4-1"/>	
Cooler Temp	<input type="text" value="0.2 degrees C"/>	
Thermometer ID	<input type="text" value="5408-27568-2-2"/>	
pH Strip ID	<input type="text" value="5521-28273-20-17"/>	



Chain of Custody Groundwater

APC General Testing Laboratory
General Service Complex Building 8

Field Complete

Lab Complete

Lab ETA 10/26/2016 15:30

Requested Complete Date	Routine	Results To	Dustin Brooks, John Pugh, Greg Dyer
Site Representative	Che George	Requested By	Greg Dyer
Collector	Ben Rothschild	Location	Gorgas Gypsum
Analysis Requested	Bottle 1: Radium 226 & 228 (1) 1L bottle, Bottle 2: Metals and Hg (1) 500 mL bottle, Bottle 3: TDS and Anions (1) 500 mL bottle		
Comments	Radium Duplicate collected at MW4		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW3	10/26/2016	09:47	3	Groundwater		AW26971
MW3 DUP	10/26/2016	09:47	3	Sample Duplicate		AW26972
MW4	10/26/2016	11:09	5	Groundwater		AW26973
MW8	10/26/2016	12:54	3	Groundwater		AW26974

Relinquished By	Received By	Date/Time
<i>Ben Rothschild</i>	<i>Greg Dyer</i>	10/26/2016 15:45

SmarTroll ID	4696-23441-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/> Cooler Temp Thermometer ID pH Strip ID
Turbidity ID	3901-20010-2-2	

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: 400-129467-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (3)

Client Project/Site: CCR Plant Gorgas

For:

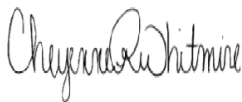
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

12/15/2016 9:32:39 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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results through

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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: 400-129467-1
SDG: Gorgas Gypsum (3)

Job ID: 400-129467-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-129467-1

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-278250: The following samples were prepared at a reduced aliquot due to limited volume: AW26971 MW-3 (400-129467-1), AW26972 MW-3 DUP (400-129467-2), AW26973 MW-4 (400-129467-3), AW26973 MW-4 (400-129467-3[DUJ]), AW26974 MW-8 (400-129467-4), AW27035 MW-1L (400-129467-5), AW27036 MW-2L (400-129467-6), AW27037 FB-1 (400-129467-7), AW27038 MW-3L (400-129467-8) and AW27040 EB-1 (400-129467-10).

Method(s) PrecSep_0: Radium-228 Prep Batch 160-278797: The following sample was reduced due to limited sample volume AW27039 MW-4L (400-129467-9) .

Method(s) PrecSep-21: Radium-226 Prep Batch 160-278234: The following samples were prepared at a reduced aliquot due to limited volume: AW26971 MW-3 (400-129467-1), AW26972 MW-3 DUP (400-129467-2), AW26973 MW-4 (400-129467-3), AW26973 MW-4 (400-129467-3[DUJ]), AW26974 MW-8 (400-129467-4), AW27035 MW-1L (400-129467-5), AW27036 MW-2L (400-129467-6), AW27037 FB-1 (400-129467-7), AW27038 MW-3L (400-129467-8) and AW27040 EB-1 (400-129467-10).

Method(s) PrecSep-21: Radium-226 Prep Batch 160-278788: The following sample was reduced due to limited sample volume AW27039 MW-4L (400-129467-9) .



Method Summary

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

TestAmerica Job ID: 400-129467-1
SDG: Gorgas Gypsum (3)

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: 400-129467-1
SDG: Gorgas Gypsum (3)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-129467-1	AW26971 MW-3	Water	10/26/16 09:47	11/01/16 16:47
400-129467-2	AW26972 MW-3 DUP	Water	10/26/16 09:47	11/01/16 16:47
400-129467-3	AW26973 MW-4	Water	10/26/16 11:09	11/01/16 16:47
400-129467-4	AW26974 MW-8	Water	10/26/16 12:54	11/01/16 16:47
400-129467-5	AW27035 MW-1L	Water	10/26/16 09:30	11/01/16 16:47
400-129467-6	AW27036 MW-2L	Water	10/26/16 10:54	11/01/16 16:47
400-129467-7	AW27037 FB-1	Water	10/26/16 11:05	11/01/16 16:47
400-129467-8	AW27038 MW-3L	Water	10/26/16 13:00	11/01/16 16:47
400-129467-9	AW27039 MW-4L	Water	10/26/16 14:18	11/01/16 16:47
400-129467-10	AW27040 EB-1	Water	10/26/16 14:30	11/01/16 16:47

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW26971 MW-3

Lab Sample ID: 400-129467-1

Date Collected: 10/26/16 09:47

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.133	U	0.109	0.109	1.00	0.165	pCi/L	11/08/16 11:40	12/06/16 09:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		40 - 110					11/08/16 11:40	12/06/16 09:22	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.109	U	0.332	0.332	1.00	0.574	pCi/L	11/08/16 12:40	12/02/16 13:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.0		40 - 110					11/08/16 12:40	12/02/16 13:29	1
Y Carrier	84.9		40 - 110					11/08/16 12:40	12/02/16 13:29	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	0.242	U	0.349	0.349	5.00	0.574	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW26972 MW-3 DUP

Lab Sample ID: 400-129467-2

Date Collected: 10/26/16 09:47

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0245	U	0.149	0.149	1.00	0.318	pCi/L	11/08/16 11:40	12/04/16 14:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					11/08/16 11:40	12/04/16 14:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.426	U	0.366	0.368	1.00	0.586	pCi/L	11/08/16 12:40	12/02/16 13:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					11/08/16 12:40	12/02/16 13:29	1
Y Carrier	82.2		40 - 110					11/08/16 12:40	12/02/16 13:29	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	0.401	U	0.395	0.397	5.00	0.586	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW26973 MW-4

Lab Sample ID: 400-129467-3

Date Collected: 10/26/16 11:09

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.210	U	0.183	0.184	1.00	0.272	pCi/L	11/08/16 11:40	12/04/16 14:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/08/16 11:40	12/04/16 14:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.422	U	0.334	0.336	1.00	0.527	pCi/L	11/08/16 12:40	12/02/16 13:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/08/16 12:40	12/02/16 13:29	1
Y Carrier	84.1		40 - 110					11/08/16 12:40	12/02/16 13:29	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	0.632		0.381	0.384	5.00	0.527	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW26974 MW-8

Lab Sample ID: 400-129467-4

Date Collected: 10/26/16 12:54

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178	U	0.187	0.188	1.00	0.295	pCi/L	11/08/16 11:40	12/04/16 14:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					11/08/16 11:40	12/04/16 14:05	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.377	U	0.391	0.392	1.00	0.637	pCi/L	11/08/16 12:40	12/02/16 13:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110					11/08/16 12:40	12/02/16 13:29	1
Y Carrier	81.9		40 - 110					11/08/16 12:40	12/02/16 13:29	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	0.555	U	0.433	0.435	5.00	0.637	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW27035 MW-1L

Lab Sample ID: 400-129467-5

Date Collected: 10/26/16 09:30

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.232	U	0.218	0.219	1.00	0.340	pCi/L	11/08/16 11:40	12/04/16 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/08/16 11:40	12/04/16 14:16	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.404	U	0.326	0.328	1.00	0.515	pCi/L	11/08/16 12:40	12/02/16 13:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					11/08/16 12:40	12/02/16 13:29	1
Y Carrier	85.2		40 - 110					11/08/16 12:40	12/02/16 13:29	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	0.636		0.392	0.394	5.00	0.515	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW27036 MW-2L

Lab Sample ID: 400-129467-6

Date Collected: 10/26/16 10:54

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.131	U	0.206	0.206	1.00	0.355	pCi/L	11/08/16 11:40	12/04/16 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					11/08/16 11:40	12/04/16 14:16	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.864		0.412	0.420	1.00	0.602	pCi/L	11/08/16 12:40	12/02/16 13:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.6		40 - 110					11/08/16 12:40	12/02/16 13:33	1
Y Carrier	84.1		40 - 110					11/08/16 12:40	12/02/16 13:33	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	0.994		0.461	0.468	5.00	0.602	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW27037 FB-1

Lab Sample ID: 400-129467-7

Date Collected: 10/26/16 11:05

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.214	U	0.185	0.186	1.00	0.277	pCi/L	11/08/16 11:40	12/04/16 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					11/08/16 11:40	12/04/16 14:16	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.191	U	0.319	0.319	1.00	0.538	pCi/L	11/08/16 12:40	12/02/16 13:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					11/08/16 12:40	12/02/16 13:33	1
Y Carrier	83.7		40 - 110					11/08/16 12:40	12/02/16 13:33	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	0.405	U	0.368	0.369	5.00	0.538	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW27038 MW-3L

Lab Sample ID: 400-129467-8

Date Collected: 10/26/16 13:00

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.315		0.212	0.214	1.00	0.289	pCi/L	11/08/16 11:40	12/04/16 14:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					11/08/16 11:40	12/04/16 14:17	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.440	U	0.353	0.356	1.00	0.559	pCi/L	11/08/16 12:40	12/02/16 13:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.8		40 - 110					11/08/16 12:40	12/02/16 13:30	1
Y Carrier	80.4		40 - 110					11/08/16 12:40	12/02/16 13:30	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	0.755		0.412	0.415	5.00	0.559	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW27039 MW-4L

Lab Sample ID: 400-129467-9

Date Collected: 10/26/16 14:18

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.271	U	0.284	0.285	1.00	0.451	pCi/L	11/11/16 10:54	12/10/16 11:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.2		40 - 110					11/11/16 10:54	12/10/16 11:55	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.107	U	0.348	0.348	1.00	0.649	pCi/L	11/11/16 11:54	12/09/16 15:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.2		40 - 110					11/11/16 11:54	12/09/16 15:48	1
Y Carrier	83.0		40 - 110					11/11/16 11:54	12/09/16 15:48	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	0.164	U	0.449	0.450	5.00	0.649	pCi/L		12/13/16 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Client Sample ID: AW27040 EB-1

Lab Sample ID: 400-129467-10

Date Collected: 10/26/16 14:30

Matrix: Water

Date Received: 11/01/16 16:47

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0824	U	0.182	0.183	1.00	0.328	pCi/L	11/08/16 11:40	12/04/16 14:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					11/08/16 11:40	12/04/16 14:17	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0386	U	0.261	0.261	1.00	0.481	pCi/L	11/08/16 12:40	12/02/16 13:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					11/08/16 12:40	12/02/16 13:30	1
Y Carrier	81.5		40 - 110					11/08/16 12:40	12/02/16 13:30	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	0.0438	U	0.318	0.319	5.00	0.481	pCi/L		12/13/16 09:05	1

Definitions/Glossary

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

TestAmerica Job ID: 400-129467-1
SDG: Gorgas Gypsum (3)

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-129467-1
SDG: Gorgas Gypsum (3)

Client Sample ID: AW26971 MW-3

Date Collected: 10/26/16 09:47

Date Received: 11/01/16 16:47

Lab Sample ID: 400-129467-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282778	12/06/16 09:22	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:29	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW26972 MW-3 DUP

Date Collected: 10/26/16 09:47

Date Received: 11/01/16 16:47

Lab Sample ID: 400-129467-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282199	12/04/16 14:05	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:29	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW26973 MW-4

Date Collected: 10/26/16 11:09

Date Received: 11/01/16 16:47

Lab Sample ID: 400-129467-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282199	12/04/16 14:05	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:29	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW26974 MW-8

Date Collected: 10/26/16 12:54

Date Received: 11/01/16 16:47

Lab Sample ID: 400-129467-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282199	12/04/16 14:05	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:29	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-129467-1
SDG: Gorgas Gypsum (3)

Client Sample ID: AW27035 MW-1L

Lab Sample ID: 400-129467-5

Date Collected: 10/26/16 09:30

Matrix: Water

Date Received: 11/01/16 16:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282200	12/04/16 14:16	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:29	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW27036 MW-2L

Lab Sample ID: 400-129467-6

Date Collected: 10/26/16 10:54

Matrix: Water

Date Received: 11/01/16 16:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282200	12/04/16 14:16	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW27037 FB-1

Lab Sample ID: 400-129467-7

Date Collected: 10/26/16 11:05

Matrix: Water

Date Received: 11/01/16 16:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282200	12/04/16 14:16	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:33	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW27038 MW-3L

Lab Sample ID: 400-129467-8

Date Collected: 10/26/16 13:00

Matrix: Water

Date Received: 11/01/16 16:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282200	12/04/16 14:17	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-129467-1
SDG: Gorgas Gypsum (3)

Client Sample ID: AW27039 MW-4L

Lab Sample ID: 400-129467-9

Date Collected: 10/26/16 14:18

Matrix: Water

Date Received: 11/01/16 16:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278788	11/11/16 10:54	AS	TAL SL
Total/NA	Analysis	9315		1	283324	12/10/16 11:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			278797	11/11/16 11:54	AS	TAL SL
Total/NA	Analysis	9320		1	283245	12/09/16 15:48	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	RTM	TAL SL

Client Sample ID: AW27040 EB-1

Lab Sample ID: 400-129467-10

Date Collected: 10/26/16 14:30

Matrix: Water

Date Received: 11/01/16 16:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278234	11/08/16 11:40	AS	TAL SL
Total/NA	Analysis	9315		1	282200	12/04/16 14:17	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278250	11/08/16 12:40	AS	TAL SL
Total/NA	Analysis	9320		1	282092	12/02/16 13:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283684	12/13/16 09:05	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: 400-129467-1
 SDG: Gorgas Gypsum (3)

Rad

Prep Batch: 278234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-129467-1	AW26971 MW-3	Total/NA	Water	PrecSep-21	
400-129467-2	AW26972 MW-3 DUP	Total/NA	Water	PrecSep-21	
400-129467-3	AW26973 MW-4	Total/NA	Water	PrecSep-21	
400-129467-4	AW26974 MW-8	Total/NA	Water	PrecSep-21	
400-129467-5	AW27035 MW-1L	Total/NA	Water	PrecSep-21	
400-129467-6	AW27036 MW-2L	Total/NA	Water	PrecSep-21	
400-129467-7	AW27037 FB-1	Total/NA	Water	PrecSep-21	
400-129467-8	AW27038 MW-3L	Total/NA	Water	PrecSep-21	
400-129467-10	AW27040 EB-1	Total/NA	Water	PrecSep-21	
MB 160-278234/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-278234/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-129467-3 DU	AW26973 MW-4	Total/NA	Water	PrecSep-21	

Prep Batch: 278250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-129467-1	AW26971 MW-3	Total/NA	Water	PrecSep_0	
400-129467-2	AW26972 MW-3 DUP	Total/NA	Water	PrecSep_0	
400-129467-3	AW26973 MW-4	Total/NA	Water	PrecSep_0	
400-129467-4	AW26974 MW-8	Total/NA	Water	PrecSep_0	
400-129467-5	AW27035 MW-1L	Total/NA	Water	PrecSep_0	
400-129467-6	AW27036 MW-2L	Total/NA	Water	PrecSep_0	
400-129467-7	AW27037 FB-1	Total/NA	Water	PrecSep_0	
400-129467-8	AW27038 MW-3L	Total/NA	Water	PrecSep_0	
400-129467-10	AW27040 EB-1	Total/NA	Water	PrecSep_0	
MB 160-278250/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-278250/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-129467-3 DU	AW26973 MW-4	Total/NA	Water	PrecSep_0	

Prep Batch: 278788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-129467-9	AW27039 MW-4L	Total/NA	Water	PrecSep-21	
MB 160-278788/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-278788/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
160-19941-P-4-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 278797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-129467-9	AW27039 MW-4L	Total/NA	Water	PrecSep_0	
MB 160-278797/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-278797/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
160-19941-P-4-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-278234/1-A
Matrix: Water
Analysis Batch: 282199

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278234

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.06153	U	0.120	0.121	1.00	0.216	pCi/L	11/08/16 11:40	12/04/16 14:03	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		11/08/16 11:40	12/04/16 14:03				1	
	88.6		40 - 110							

Lab Sample ID: LCS 160-278234/2-A
Matrix: Water
Analysis Batch: 282199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278234

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.1	14.11		1.58	1.00	0.221	pCi/L	127	68 - 137
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	%Yield	Qualifier		11/08/16 11:40	12/04/16 14:03				1
	86.9		40 - 110						

Lab Sample ID: 400-129467-3 DU
Matrix: Water
Analysis Batch: 282199

Client Sample ID: AW26973 MW-4
Prep Type: Total/NA
Prep Batch: 278234

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.210	U	0.1120	U	0.197	1.00	0.348	pCi/L	0.26	1
Carrier	DU DU		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		11/08/16 11:40	12/04/16 14:03				1	
	71.2		40 - 110							

Lab Sample ID: MB 160-278788/1-A
Matrix: Water
Analysis Batch: 283324

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278788

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04767	U	0.170	0.170	1.00	0.327	pCi/L	11/11/16 10:54	12/10/16 11:54	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier		11/11/16 10:54	12/10/16 11:54				1	
	75.2		40 - 110							

Lab Sample ID: LCS 160-278788/2-A
Matrix: Water
Analysis Batch: 283324

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278788

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.1	13.93		1.68	1.00	0.313	pCi/L	126	68 - 137

QC Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

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

Lab Sample ID: LCS 160-278788/2-A
Matrix: Water
Analysis Batch: 283324

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278788

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	81.2		40 - 110

Lab Sample ID: 160-19941-P-4-A DU
Matrix: Water
Analysis Batch: 283324

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 278788

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.262	U	0.3298	U	0.246	1.00	0.348	pCi/L	0.14	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	72.6		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-278250/1-A
Matrix: Water
Analysis Batch: 282092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278250

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1885	U	0.248	0.249	1.00	0.413	pCi/L	11/08/16 12:40	12/02/16 13:27	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.6		40 - 110	11/08/16 12:40	12/02/16 13:27	1
Y Carrier	81.9		40 - 110	11/08/16 12:40	12/02/16 13:27	1

Lab Sample ID: LCS 160-278250/2-A
Matrix: Water
Analysis Batch: 282092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278250

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	14.2	15.80		1.70	1.00	0.387	pCi/L	111	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	86.9		40 - 110
Y Carrier	86.7		40 - 110

Lab Sample ID: 400-129467-3 DU
Matrix: Water
Analysis Batch: 282092

Client Sample ID: AW26973 MW-4
Prep Type: Total/NA
Prep Batch: 278250

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.422	U	0.8471		0.463	1.00	0.678	pCi/L	0.53	1

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

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

Lab Sample ID: 400-129467-3 DU
Matrix: Water
Analysis Batch: 282092

Client Sample ID: AW26973 MW-4
Prep Type: Total/NA
Prep Batch: 278250

	DU	DU	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	71.2		40 - 110
Y Carrier	82.2		40 - 110

Lab Sample ID: MB 160-278797/1-A
Matrix: Water
Analysis Batch: 283245

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278797

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil	Fac
	Result	Qualifier	Uncert.	Uncert.							
			(2σ+/-)	(2σ+/-)							
Radium-228	0.2622	U	0.349	0.350	1.00	0.581	pCi/L	11/11/16 11:54	12/09/16 15:47		1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil	Fac
Ba Carrier	75.2		40 - 110					11/11/16 11:54	12/09/16 15:47		1
Y Carrier	77.8		40 - 110					11/11/16 11:54	12/09/16 15:47		1

Lab Sample ID: LCS 160-278797/2-A
Matrix: Water
Analysis Batch: 283245

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278797

Analyte	Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec.	Limits
	Added	Result	Qual	Uncert.					Limits	
				(2σ+/-)						
Radium-228	14.2	15.97		1.78	1.00	0.525	pCi/L	113	56 - 140	
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	81.2		40 - 110							
Y Carrier	78.5		40 - 110							

Lab Sample ID: 160-19941-P-4-B DU
Matrix: Water
Analysis Batch: 283245

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 278797

Analyte	Sample	Sample	DU	DU	Total	RL	MDC	Unit	RER	RER	Limit
	Result	Qual	Result	Qual	Uncert.						
					(2σ+/-)						
Radium-228	0.206	U	-0.1626	U	0.311	1.00	0.578	pCi/L		0.55	1
Carrier	%Yield	Qualifier	Limits								
Ba Carrier	72.6		40 - 110								
Y Carrier	88.2		40 - 110								

QC Sample Results

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-129467-3 DU
 Matrix: Water
 Analysis Batch: 283684

Client Sample ID: AW26973 MW-4
 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	0.632		0.9591		0.503	5.00	0.678	pCi/L	0.37	

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TestAmerica Pensacola
 3355 McInemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: Jason Rouss/ Ben Rothschild		Lab P/N: Whitmire, Cheyenne R		Carrier Tracking No(s):	
Client Contact: Sarah Copeland		Phone:		E-Mail: cheyenne.whitmire@testamericainc.com		COC No: 400-56525-24537.1	
Company: Alabama Power General Test Laboratory		Due Date Requested:		Analysis Requested		Page: Page 1 of 1	
Address: 744 County Rd 87 GSC #8		TAT Requested (days):		Routine		Job #: 400-129467	
City: Calera		PO #:		Project #:		Preservation Codes:	
State, Zip: AL, 35040		WO #:		40007143		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AshNaO2 P - Na2CO3 Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Phone: 205-664-6121(Tel)		Project Name:		Corgas Gypsum (3)		Other:	
Email: sgcopela@southernco.com		Site:		Sample Identification		Special Instructions/Note:	
CCR		Sample Date		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=soil, T=tissue, A=air)	
Sample Date		Sample Time		Sample Code		Field Filtered Sample (Yes or No)	
AW26971		10/26/16		0947		G	
AW26972		10/26/16		0947		G	
AW26973		10/26/16		1109		G	
AW26974		10/26/16		1254		G	
AW27035		10/26/16		0930		G	
AW27036		10/26/16		1054		G	
AW27037		10/26/16		1105		G	
AW27038		10/26/16		1300		G	
AW27039		10/26/16		1418		G	
AW27040		10/26/16		1430		G	
Possible Hazard Identification		Deliverable Requested: I, II, III, IV, Other (specify)		Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological <input type="checkbox"/>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by:		Date:		Relinquished by: Sarah Copeland		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Relinquished by:		Date/Time: 11/11/2016, 1430		Company: APC		Date/Time: 11-16-16 1647	
Relinquished by:		Date/Time:		Company:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 24.0°C		Method of Shipment:	



400-129467 COC

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Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-129467-1
SDG Number: Gorgas Gypsum (3)

Login Number: 129467

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.0°C IR-5
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	



Certification Summary

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

TestAmerica Job ID: 400-129467-1
 SDG: Gorgas Gypsum (3)

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-16
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-16
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-17
Rhode Island	State Program	1	LAO00307	12-30-16
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	003757	11-30-16 *
Iowa	State Program	7	373	12-01-16 *
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-16
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA160008	12-31-16 *
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542016-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17
New York	NELAP	2	11616	03-31-17
North Dakota	State Program	8	R207	06-30-17

* Certification renewal pending - certification considered valid.

Certification Summary

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

TestAmerica Job ID: 400-129467-1
SDG: Gorgas Gypsum (3)

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-17 *
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-14-0016	01-09-17
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17

* Certification renewal pending - certification considered valid.

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

Analytical Report

 Alabama Power



Sample Group : WMWGORG_1060

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1060

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>Chloride Batch ID</u>	<u>Fluoride Batch ID</u>	<u>Sulfate Batch ID</u>	<u>Project ID</u>
AW28896	582753	582755	582757	WMWGORG_1060
AW28897	582753	582755	582757	WMWGORG_1060
AW28898	582753	582755	582757	WMWGORG_1060
AW28899	582753	582755	582757	WMWGORG_1060
AW28900	582753	582755	582757	WMWGORG_1060
AW28901	582753	582755	582757	WMWGORG_1060
AW28902	582753	582755	582757	WMWGORG_1060
AW28903	582753	582755	582757	WMWGORG_1060
AW28904	582753	582755	582757	WMWGORG_1060
AW28905	582753	582755	582757	WMWGORG_1060

4. All of the above samples were analyzed and prepared by EPA 300.0.
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 instrument performance check (IPC) was analyzed and all criteria were met.
- All laboratory reagent blanks were less than the method detection limits for the requested anions, with the following exception:
 1. The blank for anion sulfate presented a negative concentration above the MDL of 0.3, at -0.631 mg/L. Two batch samples (AW28899 and AW28901) presented negative sulfate concentrations below 10x the absolute value of the sulfate blank, and should be considered as quantitatively estimated non-detect concentrations, with the potential for low bias on the reported RL value.



- All laboratory fortified blanks (LFB) were within acceptance criteria for the anions requested, with the following exception:
 1. The initial performance check sample (IPC) for the initial calibration of 11/30/16 for fluoride recovered above the upper limit of 110% (2.20 mg/L), at 2.39 mg/L (120% recovery). Since these samples were setup to run overnight on an auto-injector, the high fluoride result was not immediately noticed and the associated batch samples were analyzed under a non-compliant standard. The closing sequence LFB was also above the fluoride upper limit, at 2.45 mg/L (123% recovery). A subsequent initial calibration was run on 12/02/16 with acceptable fluoride IPC response of 1.90 mg/L (95% recovery). The affected samples were not re-analyzed but were re-processed under the more recent calibration, and the re-processed results were reported. Since samples are not normally re-processed without re-analysis, the initial fluoride results were compared to the re-processed results to assess the difference between the results. Although the fluoride results under the 11/30/16 calibration were higher than the corresponding 12/02/16 ICAL re-processed results, the actual precision values between paired results were well within acceptable limits for replicate samples, as measured by absolute difference between results being less than the reporting limit for fluoride of 0.30 mg/L. The highest difference between results was 0.155 mg/L, which is slightly over 1/2 the RL value, while the remainder of the differences were 1/5 or less than the RL value. The reported values may conservatively be considered as potentially low-biased, but the results as noted above are within the normal precision limits for replicate samples.
- 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 laboratory fortified matrix (LFM) sample was analyzed with each batch. All acceptance criteria for accuracy were met, with the following exception: the dilution spike for sulfate (at 20x sample and spike-added dilution) recovered above the upper limit of 120%, at 132%. The result for sulfate for the parent sample only is qualified as a quantitatively estimated result with indication of potential high bias due to sample matrix effects.



- A sample duplicate and/or laboratory fortified matrix duplicate were analyzed with each batch. All acceptance criteria for precision were met. It is noted that separate and distinct criteria for duplicate precision calculations, based on sample and duplicate anion concentrations, are used to assess precision compliance. These are as follow: if the sample and duplicate are both greater than 5x anion Reporting Limit (RL) concentration, the precision is calculated and reported as relative percent difference (RPD), with an acceptance range of 0 - 20%; if either the sample or duplicate are less than 5x anion RL, the precision is calculated and reported as the absolute value of the difference between the two concentrations, with an acceptance range of less than or equal to the anion RL value.
7. Samples AW28897 and AW28898 were re-analyzed for chloride and for sulfate at a 10x dilution, samples AW28900, AW28904 and AW28905 were re-analyzed for sulfate at a 20x dilution, sample AW28896 was re-analyzed for chloride and for sulfate at a 50x dilution, and samples AW28902 and AW28903 were re-analyzed for sulfate at a 50x dilution, due to undiluted results exceeding the calibrated range of the detector. The dilution results for chloride and for sulfate for these respective samples should be used; reporting limit (RL) values are adjusted upward to reflect the dilution factor applied.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW28896	Chloride, Sulfate	50X
AW28897	Chloride, Sulfate	10X
AW28898	Chloride, Sulfate	10X
AW28900	Sulfate	20X
AW28902	Sulfate	50X
AW28903	Sulfate	50X
AW28904	Sulfate	20X
AW28905	Sulfate	20X

8. The raw data results are shown with dilution factors included, when dilutions are manually performed by the analyst.
 The raw data results are shown without dilution factor corrections, when dilutions are run automatically by the instrument.



Metals ICP

Gorgas Gypsum

WMWGORG_1060

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW28896	20161228B_20161227B	WMWGORG_1060
AW28897	20161228B_20161227B	WMWGORG_1060
AW28898	20161228B_20161227B	WMWGORG_1060
AW28899	20161228B_20161227B	WMWGORG_1060
AW28900	20161228B_20161227B	WMWGORG_1060
AW28901	20161228B_20161227B	WMWGORG_1060
AW28902	20161228B_20161227B	WMWGORG_1060
AW28903	20161227C_20161228C_20170109	WMWGORG_1060
AW28904	20161227C_20161228C_20170109	WMWGORG_1060
AW28905	20161227C_20161228C_20170109	WMWGORG_1060

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

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes except for Lithium analyzed on 20161227C. Due to matrix issue with these samples, the samples were analyzed in 20170109 data set and rinses specific to this matrix were used. All CCV were within the acceptance criteria for lithium in data set 20170109.
- 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 with the following exceptions:

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AW28903
Calcium	AW28902

The concentration of these analytes in the matrix spike were less than 30 percent of the concentration of the sample causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- 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 without a dilution with the following exceptions: The following samples were diluted due to sample concentrations from the undiluted analysis were over the high standard of the calibration curve.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AW28896	Calcium	100X
AW28897	Calcium	10X
AW28898	Calcium	10X
AW28900	Calcium	10X
AW28902	Calcium	10X
AW28902MS	Calcium	10X
AW28902MSD	Calcium	10X
AW28903	Calcium	10X
AW28903MS	Calcium	10X

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Case Narrative



AW28903MSD	Calcium	10X
AW28904	Calcium	10X
AW28905	Calcium	10X

8. The raw data results include both results corrected for dilution and results not corrected for dilution.



Metals ICPMS

Gorgas Gypsum

WMWGORG_1060

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW28896	582262	WMWGORG_1060
AW28897	582262	WMWGORG_1060
AW28898	582262	WMWGORG_1060
AW28899	582262	WMWGORG_1060
AW28900	582262	WMWGORG_1060
AW28901	582262	WMWGORG_1060
AW28902	582262	WMWGORG_1060
AW28903	582274	WMWGORG_1060
AW28904	582274	WMWGORG_1060
AW28905	582274	WMWGORG_1060

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.
- 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_1060

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW28896	582542	WMWGORG_1060
AW28897	582542	WMWGORG_1060
AW28899	582542	WMWGORG_1060
AW28900	582542	WMWGORG_1060
AW28901	582542	WMWGORG_1060
AW28902	582542	WMWGORG_1060
AW28898	582922	WMWGORG_1060
AW28903	582922	WMWGORG_1060
AW28904	582922	WMWGORG_1060
AW28905	582922	WMWGORG_1060

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_1060

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AW28896	582295	WMWGORG_1060
AW28897	582295	WMWGORG_1060
AW28898	582295	WMWGORG_1060
AW28899	582295	WMWGORG_1060
AW28900	582295	WMWGORG_1060
AW28901	582295	WMWGORG_1060
AW28902	582422	WMWGORG_1060
AW28903	582422	WMWGORG_1060
AW28904	582422	WMWGORG_1060
AW28905	582422	WMWGORG_1060

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 0.5 mg 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 2.5 mg and 200 mg residue.

Alabama Power General Test Laboratory
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Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW28896

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0128	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	J 0.00133	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	1.72	mg/L
* Calcium, Total	HRG	1/6/2017	EPA 200.7		100	10.0	50.0	552.	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0617	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/30/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	0.401	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/28/2016	SM 2540C		1		250	5090	mg/L
* Chloride, Total	SES	12/1/2016	EPA 300.0		50	2.00	12.50	256	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	J 0.238	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		50	15.0	50	2880	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, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW28896

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115	82.5	70 to 130	3.81	20	
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115	95.7	70 to 130	0.449	20	
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115	108	70 to 130	2.42	20	
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115	91.6	70 to 130	0.0902	20	
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115	92.1	70 to 130	4.40	20	
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115	91.3	70 to 130	2.12	20	
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115	87.0	70 to 130	2.84	20	
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23	119	70 to 130	1.65	20	
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115	90.2	70 to 130	0.0377	20	
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15	103	70 to 130	0.391	20	
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75	171	70 to 130	5.07	20	
AW28902 Mercury, Total by CVAA	mg/L	0.0000776	0.0005	0.004	0.00396	0.00404	0.00403	0.0034 to 0.0046	99.0	70 to 130	2.00	20	
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115	83.8	70 to 130	1.36	20	
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115	92.2	70 to 130	3.44	20	
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115	94.1	70 to 130	0.819	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AW28896

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28925	Solids, Dissolved	mg/L	1.00	25			4490	51.0	40 to 60			2.16	5
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20

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 Laboratory certification ID: E571114
 Issued By: State of Florida, Department of Health
 Expiration: June 30, 2017

Comments:

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  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW28897

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0120	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	0.00502	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	4.82	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0	104	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	0.00154	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.155	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/30/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	0.294	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	J 0.00212	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/28/2016	SM 2540C		1		100	1020	mg/L
* Chloride, Total	SES	12/1/2016	EPA 300.0		10	0.40	2.50	117	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	0.562	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		10	3.0	10	593	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW28897

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115	82.5	70 to 130	3.81	20	
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23	119	70 to 130	1.65	20	
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115	90.2	70 to 130	0.0377	20	
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115	91.6	70 to 130	0.0902	20	
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115	92.1	70 to 130	4.40	20	
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115	91.3	70 to 130	2.12	20	
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115	87.0	70 to 130	2.84	20	
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115	95.7	70 to 130	0.449	20	
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115	108	70 to 130	2.42	20	
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15	103	70 to 130	0.391	20	
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75	171	70 to 130	5.07	20	
AW28902 Mercury, Total by CVAA	mg/L	0.0000776	0.0005	0.004	0.00396	0.00404	0.00403	0.0034 to 0.0046	99.0	70 to 130	2.00	20	
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115	83.8	70 to 130	1.36	20	
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115	92.2	70 to 130	3.44	20	
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115	94.1	70 to 130	0.819	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AW28897

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28925	Solids, Dissolved	mg/L	1.00	25			4490	51.0	40 to 60			2.16	5
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

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 FAX (205) 257-1654

Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW28898

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0117	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	0.00486	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	4.81	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0	104	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	0.00154	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.154	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	12/7/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	0.294	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/28/2016	SM 2540C		1		100	1060	mg/L
* Chloride, Total	SES	12/1/2016	EPA 300.0		10	0.40	2.50	117	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	0.562	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		10	3.0	10	597	mg/L

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

Comments:

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

Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW28898

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit	
			Limit	Spike				Limit	Rec	Limit	Prec			
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115		82.5	70 to 130		3.81	20
AW28960 Mercury, Total by CVAA	mg/L	0.0000629	0.0005	0.004	0.00398	0.00394	0.00391	0.0034 to 0.0046		99.6	70 to 130		1.02	20
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115		91.3	70 to 130		2.12	20
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115		87.0	70 to 130		2.84	20
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23		119	70 to 130		1.65	20
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115		90.2	70 to 130		0.0377	20
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115		91.6	70 to 130		0.0902	20
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115		92.1	70 to 130		4.40	20
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15		103	70 to 130		0.391	20
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75		171	70 to 130		5.07	20
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115		83.8	70 to 130		1.36	20
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115		92.2	70 to 130		3.44	20
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115		94.1	70 to 130		0.819	20
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115		95.7	70 to 130		0.449	20
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115		108	70 to 130		2.42	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AW28898

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28925	Solids, Dissolved	mg/L	1.00	25			4490	51.0	40 to 60			2.16	5
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

Alabama Power General Test Laboratory
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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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW28899

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	12/27/2016	EPA 200.7		1	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/30/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/28/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25	J 0.187	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	11/30/2016	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW28899

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115	82.5	70 to 130	3.81	20	
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23	119	70 to 130	1.65	20	
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115	90.2	70 to 130	0.0377	20	
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115	95.7	70 to 130	0.449	20	
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115	108	70 to 130	2.42	20	
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115	91.6	70 to 130	0.0902	20	
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115	92.1	70 to 130	4.40	20	
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115	91.3	70 to 130	2.12	20	
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115	87.0	70 to 130	2.84	20	
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15	103	70 to 130	0.391	20	
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75	171	70 to 130	5.07	20	
AW28902 Mercury, Total by CVAA	mg/L	0.0000776	0.0005	0.004	0.00396	0.00404	0.00403	0.0034 to 0.0046	99.0	70 to 130	2.00	20	
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115	83.8	70 to 130	1.36	20	
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115	92.2	70 to 130	3.44	20	
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115	94.1	70 to 130	0.819	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, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AW28899

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28925	Solids, Dissolved	mg/L	1.00	25			4490	51.0	40 to 60			2.16	5
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

Alabama Power General Test Laboratory
 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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW28900

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0604	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	J 0.0788	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0	246	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0233	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/30/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	0.0682	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/28/2016	SM 2540C		1		250	2530	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25	4.39	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	J 0.059	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		20	6.0	20	1210	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW28900

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit	
			Limit	Spike				Limit	Rec	Limit	Prec			
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115		82.5	70 to 130		3.81	20
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115		91.3	70 to 130		2.12	20
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115		87.0	70 to 130		2.84	20
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115		91.6	70 to 130		0.0902	20
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115		92.1	70 to 130		4.40	20
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115		95.7	70 to 130		0.449	20
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115		108	70 to 130		2.42	20
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23		119	70 to 130		1.65	20
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115		90.2	70 to 130		0.0377	20
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15		103	70 to 130		0.391	20
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75		171	70 to 130		5.07	20
AW28902 Mercury, Total by CVAA	mg/L	0.0000776	0.0005	0.004	0.00396	0.00404	0.00403	0.0034 to 0.0046		99.0	70 to 130		2.00	20
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115		83.8	70 to 130		1.36	20
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115		92.2	70 to 130		3.44	20
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115		94.1	70 to 130		0.819	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

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AW28900

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec			Prec
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28925	Solids, Dissolved	mg/L	1.00	25			4490	51.0	40 to 60			2.16	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

Alabama Power General Test Laboratory
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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
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW28901

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	12/27/2016	EPA 200.7		1	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/30/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/28/2016	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	11/30/2016	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW28901

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115	82.5	70 to 130	3.81	20	
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115	91.6	70 to 130	0.0902	20	
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115	92.1	70 to 130	4.40	20	
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23	119	70 to 130	1.65	20	
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115	90.2	70 to 130	0.0377	20	
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115	95.7	70 to 130	0.449	20	
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115	108	70 to 130	2.42	20	
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15	103	70 to 130	0.391	20	
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75	171	70 to 130	5.07	20	
AW28902 Mercury, Total by CVAA	mg/L	0.0000776	0.0005	0.004	0.00396	0.00404	0.00403	0.0034 to 0.0046	99.0	70 to 130	2.00	20	
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115	83.8	70 to 130	1.36	20	
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115	92.2	70 to 130	3.44	20	
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115	94.1	70 to 130	0.819	20	
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115	91.3	70 to 130	2.12	20	
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115	87.0	70 to 130	2.84	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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

Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AW28901

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec			Prec
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28925	Solids, Dissolved	mg/L	1.00	25			4490	51.0	40 to 60			2.16	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW28902

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0106	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	J 0.0458	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0	320	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	11/30/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	12/27/2016	EPA 200.7		1	0.01	0.05	J 0.0477	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/29/2016	SM 2540C		1		250	4230	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25	2.39	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	J 0.192	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		50	15.0	50	2720	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, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 1/4/17

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW28902

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28925 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0825	0.0857	0.0928	0.085 to 0.115	82.5	70 to 130	3.81	20	
AW28902 Lithium, Total	mg/L	0.0000193	0.022	0.20	0.286	0.291	0.221	0.17 to 0.23	119	70 to 130	1.65	20	
AW28925 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0902	0.0902	0.100	0.085 to 0.115	90.2	70 to 130	0.0377	20	
AW28925 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.102	0.0998	0.0924	0.085 to 0.115	91.3	70 to 130	2.12	20	
AW28925 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0870	0.0895	0.0935	0.085 to 0.115	87.0	70 to 130	2.84	20	
AW28925 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.0957	0.0952	0.0961	0.085 to 0.115	95.7	70 to 130	0.449	20	
AW28925 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.108	0.106	0.0955	0.085 to 0.115	108	70 to 130	2.42	20	
AW28925 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0916	0.0915	0.0883	0.085 to 0.115	91.6	70 to 130	0.0902	20	
AW28925 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.0921	0.0963	0.0934	0.085 to 0.115	92.1	70 to 130	4.40	20	
AW28902 Boron, Total	mg/L	-0.00331	0.044	1.00	1.08	1.08	1.01	0.85 to 1.15	103	70 to 130	0.391	20	
AW28902 Calcium, Total	mg/L	-0.0398	0.22	5.00	328	345	5.33	4.25 to 5.75	171	70 to 130	5.07	20	
AW28902 Mercury, Total by CVAA	mg/L	0.0000776	0.0005	0.004	0.00396	0.00404	0.00403	0.0034 to 0.0046	99.0	70 to 130	2.00	20	
AW28925 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0838	0.0827	0.0867	0.085 to 0.115	83.8	70 to 130	1.36	20	
AW28925 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.0922	0.0955	0.0940	0.085 to 0.115	92.2	70 to 130	3.44	20	
AW28925 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0941	0.0949	0.0936	0.085 to 0.115	94.1	70 to 130	0.819	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 1/4/17

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AW28902

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20
AW28960	Solids, Dissolved	mg/L	-1.0	25			0.0	50	40 to 60			0	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW28903

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	J 0.00833	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	0.00689	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	J 0.0406	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0	263	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	0.00171	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.241	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	12/7/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/9/2017	EPA 200.7		1	0.01	0.05	0.167	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/29/2016	SM 2540C		1		250	3090	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25	1.38	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	J 0.244	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		50	15.0	50	2060	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 1/4/17

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW28903

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28903 Boron, Total	mg/L	-0.00259	0.044	1.00	1.09	1.09	1.02	0.85 to 1.15	104	70 to 130	0.531	20	
AW28960 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0952	0.0949	0.0928	0.085 to 0.115	95.2	70 to 130	0.351	20	
AW28960 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.1000	0.0986	0.0924	0.085 to 0.115	100	70 to 130	1.37	20	
AW28960 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0874	0.0867	0.0867	0.085 to 0.115	87.4	70 to 130	0.729	20	
AW28960 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.111	0.107	0.0955	0.085 to 0.115	111	70 to 130	3.33	20	
AW28960 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0961	0.0962	0.0883	0.085 to 0.115	96.1	70 to 130	0.113	20	
AW28960 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0966	0.0963	0.100	0.085 to 0.115	96.6	70 to 130	0.292	20	
AW28903 Lithium, Total	mg/L	0.000250	0.022	0.20	0.411	0.404	0.203	0.17 to 0.23	122	70 to 130	1.71	20	
AW28960 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0966	0.0979	0.0935	0.085 to 0.115	96.6	70 to 130	1.31	20	
AW28960 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.108	0.110	0.0934	0.085 to 0.115	108	70 to 130	2.38	20	
AW28903 Calcium, Total	mg/L	-0.0358	0.22	5.00	267	271	5.61	4.25 to 5.75	68.0	70 to 130	1.53	20	
AW28960 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.104	0.103	0.0961	0.085 to 0.115	104	70 to 130	0.458	20	
AW28960 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.102	0.103	0.0940	0.085 to 0.115	102	70 to 130	1.15	20	
AW28960 Mercury, Total by CVAA	mg/L	0.0000629	0.0005	0.004	0.00398	0.00394	0.00391	0.0034 to 0.0046	99.6	70 to 130	1.02	20	
AW28960 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0956	0.0951	0.0936	0.085 to 0.115	95.6	70 to 130	0.513	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 1/4/17

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AW28903

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20
AW28960	Solids, Dissolved	mg/L	-1.0	25			0.0	50	40 to 60			0	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of range.
 The spike amount is less than 30% the sample amount,
 therefore will not be qualified. SGC 1/4/17

CC:

Alabama Power General Test Laboratory
 744 County Road 87, GSC#8
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Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AW28904

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	J 0.00111	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0144	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	J 0.0350	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0	179	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	0.0857	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	12/7/2016	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	1/9/2017	EPA 200.7		1	0.01	0.05	0.0667	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	GAS	11/29/2016	SM 2540C		1		100	1740	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25	3.34	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	J 0.027	mg/L
* Sulfate, Total	SES	12/1/2016	EPA 300.0		20	6.0	20	1100	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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

Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AW28904

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AW28960 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0952	0.0949	0.0928	0.085 to 0.115	95.2	70 to 130	0.351	20	
AW28903 Boron, Total	mg/L	-0.00259	0.044	1.00	1.09	1.09	1.02	0.85 to 1.15	104	70 to 130	0.531	20	
AW28960 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.1000	0.0986	0.0924	0.085 to 0.115	100	70 to 130	1.37	20	
AW28960 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.111	0.107	0.0955	0.085 to 0.115	111	70 to 130	3.33	20	
AW28960 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0874	0.0867	0.0867	0.085 to 0.115	87.4	70 to 130	0.729	20	
AW28960 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0961	0.0962	0.0883	0.085 to 0.115	96.1	70 to 130	0.113	20	
AW28960 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0966	0.0963	0.100	0.085 to 0.115	96.6	70 to 130	0.292	20	
AW28903 Lithium, Total	mg/L	0.000250	0.022	0.20	0.411	0.404	0.203	0.17 to 0.23	122	70 to 130	1.71	20	
AW28960 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0966	0.0979	0.0935	0.085 to 0.115	96.6	70 to 130	1.31	20	
AW28960 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.108	0.110	0.0934	0.085 to 0.115	108	70 to 130	2.38	20	
AW28903 Calcium, Total	mg/L	-0.0358	0.22	5.00	267	271	5.61	4.25 to 5.75	68.0	70 to 130	1.53	20	
AW28960 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.104	0.103	0.0961	0.085 to 0.115	104	70 to 130	0.458	20	
AW28960 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.102	0.103	0.0940	0.085 to 0.115	102	70 to 130	1.15	20	
AW28960 Mercury, Total by CVAA	mg/L	0.0000629	0.0005	0.004	0.00398	0.00394	0.00391	0.0034 to 0.0046	99.6	70 to 130	1.02	20	
AW28960 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0956	0.0951	0.0936	0.085 to 0.115	95.6	70 to 130	0.513	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AW28904

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20
AW28960	Solids, Dissolved	mg/L	-1.0	25			0.0	50	40 to 60			0	5

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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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AW28905

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q	Results	Units
Radiological										
Total Radium, Test America	SGC	3/16/2017	EPA 9315/9320		1				Attached	
Metals, Cyanide, Total Phenols										
* Antimony, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U	Not Detected	mg/L
* Arsenic, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U	Not Detected	mg/L
* Barium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	J	0.00879	mg/L
* Beryllium, Total	JHK	11/28/2016	EPA 200.8		5	0.00060	0.0030	U	Not Detected	mg/L
* Boron, Total	HRG	12/27/2016	EPA 200.7		1	0.02	0.1	J	0.0202	mg/L
* Calcium, Total	HRG	12/28/2016	EPA 200.7		10	1.0	5.0		144	mg/L
* Cadmium, Total	JHK	11/28/2016	EPA 200.8		5	0.0002	0.0010		0.00197	mg/L
* Cobalt, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010		0.0569	mg/L
* Chromium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U	Not Detected	mg/L
* Mercury, Total by CVAA	MCW	12/7/2016	EPA 245.1		1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	HRG	1/9/2017	EPA 200.7		1	0.01	0.05	J	0.0236	mg/L
* Molybdenum, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U	Not Detected	mg/L
* Lead, Total	JHK	11/28/2016	EPA 200.8		5	0.0010	0.005	U	Not Detected	mg/L
* Selenium, Total	JHK	11/28/2016	EPA 200.8		5	0.0020	0.010	U	Not Detected	mg/L
* Thallium, Total	JHK	11/28/2016	EPA 200.8		5	0.00020	0.0010	U	Not Detected	mg/L
General Characteristics										
* Solids, Dissolved	GAS	11/29/2016	SM 2540C		1		100		2070	mg/L
* Chloride, Total	SES	11/30/2016	EPA 300.0		1	0.04	0.25		2.50	mg/L
* Fluoride, Total	SES	11/30/2016	EPA 300.0		1	0.01	0.3	J	0.047	mg/L
* Sulfate, Total	SES	12/2/2016	EPA 300.0		20	6.0	20		1420	mg/L

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 Calera, AL 35040
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Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AW28905

Sample Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit	
			Limit	Spike				Limit	Rec	Limit	Prec			
AW28960 Barium, Total	mg/L	0.00000899	0.0044	0.10	0.1000	0.0986	0.0924	0.085 to 0.115		100	70 to 130		1.37	20
AW28960 Cadmium, Total	mg/L	0.00000244	0.00044	0.10	0.111	0.107	0.0955	0.085 to 0.115		111	70 to 130		3.33	20
AW28903 Boron, Total	mg/L	-0.00259	0.044	1.00	1.09	1.09	1.02	0.85 to 1.15		104	70 to 130		0.531	20
AW28960 Antimony, Total	mg/L	0.0000542	0.00132	0.10	0.0874	0.0867	0.0867	0.085 to 0.115		87.4	70 to 130		0.729	20
AW28960 Lead, Total	mg/L	0.0000255	0.0022	0.10	0.0952	0.0949	0.0928	0.085 to 0.115		95.2	70 to 130		0.351	20
AW28960 Chromium, Total	mg/L	0.0000145	0.0044	0.10	0.0961	0.0962	0.0883	0.085 to 0.115		96.1	70 to 130		0.113	20
AW28960 Cobalt, Total	mg/L	0.00000395	0.0044	0.10	0.0966	0.0963	0.100	0.085 to 0.115		96.6	70 to 130		0.292	20
AW28903 Calcium, Total	mg/L	-0.0358	0.22	5.00	267	271	5.61	4.25 to 5.75		68.0	70 to 130		1.53	20
AW28960 Arsenic, Total	mg/L	0.00000676	0.0022	0.10	0.104	0.103	0.0961	0.085 to 0.115		104	70 to 130		0.458	20
AW28960 Beryllium, Total	mg/L	0.0000458	0.00132	0.10	0.102	0.103	0.0940	0.085 to 0.115		102	70 to 130		1.15	20
AW28960 Mercury, Total by CVAA	mg/L	0.0000629	0.0005	0.004	0.00398	0.00394	0.00391	0.0034 to 0.0046		99.6	70 to 130		1.02	20
AW28960 Molybdenum, Total	mg/L	0.0000114	0.0044	0.10	0.0956	0.0951	0.0936	0.085 to 0.115		95.6	70 to 130		0.513	20
AW28903 Lithium, Total	mg/L	0.000250	0.022	0.20	0.411	0.404	0.203	0.17 to 0.23		122	70 to 130		1.71	20
AW28960 Selenium, Total	mg/L	0.00000567	0.0044	0.10	0.0966	0.0979	0.0935	0.085 to 0.115		96.6	70 to 130		1.31	20
AW28960 Thallium, Total	mg/L	0.0000286	0.00044	0.10	0.108	0.110	0.0934	0.085 to 0.115		108	70 to 130		2.38	20

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 21-Nov-16
 Customer ID:
 Delivery Date: 22-Nov-16

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AW28905

Sample	Analysis	Units	MB	MB			Sample		LFB	Rec		Prec	
				Limit	Spike	LFM	Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AW28905	Chloride, Total	mg/L	0.000	0.25	10.00	12.2	2.49	9.88	9 to 11	97.0	80 to 120	0.401	20
AW28905	Fluoride, Total	mg/L	0.000	0.3	2.00	1.75	0.048	1.95	1.8 to 2.2	85.2	80 to 120	2.11	20
AW28905	Sulfate, Total	mg/L	-0.631	1.0	400	1910	1470	20.1	18 to 22	116	80 to 120	3.46	20
AW28960	Solids, Dissolved	mg/L	-1.0	25			0.0	50	40 to 60			0	5

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, 2017

Comments:

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

Field Complete

Lab Complete

Lab ETA 11/22/2016 08:30

Requested Complete Date	Routine	Results To	Dustin Brooks, John Pugh, Greg Dyer
Site Representative	Che George	Requested By	Greg Dyer
Collector	Ben Rothschadl	Location	Gorgas Gypsum
Analysis Requested	Bottle 1: Radium 226 & 228 (1) 1L bottle, Bottle 2: Metals and Hg (1) 500 mL bottle, Bottle 3: TDS and Anions (1) 500 mL bottle		
Comments	Radium Duplicate collected at MW3. MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Anthony Goggins as part of Gorgas Landfill sample event. Anthony Goggins SmarTroll ID - 5151-26193-1-1, Turbidity ID - 5160-26211-1-1.		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-3	11/21/2016	11:33	5	Groundwater		AW28896
MW-4	11/21/2016	12:47	3	Groundwater		AW28897
MW-4DUP	11/21/2016	12:47	3	Sample Duplicate		AW28898
FB-1	11/21/2016	13:20	3	Field Blank		AW28899
MW-8	11/21/2016	14:25	3	Groundwater		AW28900
EB-1	11/21/2016	14:55	3	Equipment Blank		AW28901
MW-4L*	11/21/2016	10:54	0	Groundwater		AW28902
MW-3L*	11/21/2016	12:27	0	Groundwater		AW28903
MW-2L*	11/21/2016	13:35	0	Groundwater		AW28904
MW-1L*	11/21/2016	14:31	0	Groundwater		AW28905

Relinquished By	Received By	Date/Time
<i>Ben Rothschadl</i>	Sarah Copeland <small>Digitally signed by Sarah Copeland Date: 2016.11.22 09:24:52 -06'00'</small>	11/22/2016 09:24

SmarTroll ID	4696-23441-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	Cooler Temp
		0.2 degrees C
		Thermometer ID
		5408-27568-2-2
		pH Strip ID
		5521-28269-20-13

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: 400-130978-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (4)

Client Project/Site: CCR Plant Gorgas

For:

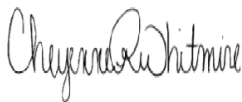
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

1/31/2017 10:13:05 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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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Case Narrative

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

TestAmerica Job ID: 400-130978-1
SDG: Gorgas Gypsum (4)

Job ID: 400-130978-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-130978-1

RAD

Method(s) 9315: Radium-226 Prep Batch 160-284103: The Laboratory Control Sample (LCS) spike recovery (167%) associated with the following samples is outside the upper QC limit of 137% indicating a potential positive bias for that analyte : AW28902 MW-4 (400-130978-1), AW28903 MW-3 (400-130978-2), AW28904 MW-2 (400-130978-3), AW28905 MW-1 (400-130978-4), AW28896 MW-3 (400-130978-5), AW28896 MW-3 (400-130978-5[DUJ]), AW28897 MW-4 (400-130978-6), AW28898 MW-4 DUP (400-130978-7), AW28899 FB-1 (400-130978-8), AW28900 MW-8 (400-130978-9), AW28901 EB-1 (400-130978-10), (LCS 160-284103/2-A) and (MB 160-284103/1-A). This analyte was not observed above the requested limit in the associated samples; therefore the sample data was not adversely affected by this excursion. The data have been qualified and reported.

Method(s) PrecSep_0: Radium-228 prep batch 160-284104: Only 1L was sent for each of the following samples. The samples were weighed at a reduced aliquot which should not affect the RL. AW28902 MW-4 (400-130978-1), AW28903 MW-3 (400-130978-2), AW28904 MW-2 (400-130978-3), AW28905 MW-1 (400-130978-4), AW28896 MW-3 (400-130978-5), AW28896 MW-3 (400-130978-5[DUJ]), AW28897 MW-4 (400-130978-6), AW28898 MW-4 DUP (400-130978-7), AW28899 FB-1 (400-130978-8), AW28900 MW-8 (400-130978-9) and AW28901 EB-1 (400-130978-10)

Method(s) PrecSep_0: Radium-228 prep batch 160-284104: The following samples turned bright orange after adding citric acid. After adding ammonium hydroxide, during precipitation, the samples turned dark orange/pink, instead of the normal yellow color. The pH of the samples was tested, and came out normal for each step. After the addition of ammonium sulfate and 18 N sulfuric acid, the samples turned bright yellow, instead of the normal pink color. A smaller than normal precipitate formed. There is obvious matrix interference in the sample. The sample was weighed again at a further reduced aliquot, but still appear the same as the original prep. AW28896 MW-3 (400-130978-5) and AW28896 MW-3 (400-130978-5[DUJ])

Method(s) PrecSep-21: Radium-226 prep batch 160-284103: Only 1L was sent for each of the following samples. The samples were weighed at a reduced aliquot which should not affect the RL. AW28902 MW-4 (400-130978-1), AW28903 MW-3 (400-130978-2), AW28904 MW-2 (400-130978-3), AW28905 MW-1 (400-130978-4), AW28896 MW-3 (400-130978-5), AW28896 MW-3 (400-130978-5[DUJ]), AW28897 MW-4 (400-130978-6), AW28898 MW-4 DUP (400-130978-7), AW28899 FB-1 (400-130978-8), AW28900 MW-8 (400-130978-9) and AW28901 EB-1 (400-130978-10)

Method(s) PrecSep-21: Radium-226 prep batch 160-284103: The following samples turned bright orange after adding citric acid. After adding ammonium hydroxide, during precipitation, the samples turned dark orange/pink, instead of the normal yellow color. The pH of the samples was tested, and came out normal for each step. After the addition of ammonium sulfate and 18 N sulfuric acid, the samples turned bright yellow, instead of the normal pink color. A smaller than normal precipitate formed. There is obvious matrix interference in the sample. The sample was weighed again at a further reduced aliquot, but still appear the same as the original prep. AW28896 MW-3 (400-130978-5) and AW28896 MW-3 (400-130978-5[DUJ])

Method Summary

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

TestAmerica Job ID: 400-130978-1
SDG: Gorgas Gypsum (4)

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: 400-130978-1
SDG: Gorgas Gypsum (4)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-130978-1	AW28902 MW-4L	Water	11/21/16 10:54	12/05/16 15:02
400-130978-2	AW28903 MW-3L	Water	11/21/16 12:27	12/05/16 15:02
400-130978-3	AW28904 MW-2L	Water	11/21/16 13:35	12/05/16 15:02
400-130978-4	AW28905 MW-1L	Water	11/21/16 14:31	12/05/16 15:02
400-130978-5	AW28896 MW-3	Water	11/21/16 11:33	12/05/16 15:02
400-130978-6	AW28897 MW-4	Water	11/21/16 12:47	12/05/16 15:02
400-130978-7	AW28898 MW-4 DUP	Water	11/21/16 12:47	12/05/16 15:02
400-130978-8	AW28899 FB-1	Water	11/21/16 13:20	12/05/16 15:02
400-130978-9	AW28900 MW-8	Water	11/21/16 14:23	12/05/16 15:02
400-130978-10	AW28901 EB-1	Water	11/21/16 14:55	12/05/16 15:02

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28902 MW-4L

Lab Sample ID: 400-130978-1

Date Collected: 11/21/16 10:54

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0544	U *	0.315	0.315	1.00	0.619	pCi/L	12/15/16 11:24	01/18/17 20:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.2		40 - 110					12/15/16 11:24	01/18/17 20:16	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.241	U	0.344	0.345	1.00	0.577	pCi/L	12/15/16 11:24	01/17/17 20:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.2		40 - 110					12/15/16 11:24	01/17/17 20:16	1
Y Carrier	92.3		40 - 110					12/15/16 11:24	01/17/17 20:16	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	0.296	U	0.467	0.467	5.00	0.619	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28903 MW-3L

Lab Sample ID: 400-130978-2

Date Collected: 11/21/16 12:27

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.290	U	0.386	0.387	1.00	0.647	pCi/L	12/15/16 11:24	01/18/17 20:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					12/15/16 11:24	01/18/17 20:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.410	U	0.356	0.358	1.00	0.568	pCi/L	12/15/16 11:24	01/17/17 20:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.4		40 - 110					12/15/16 11:24	01/17/17 20:16	1
Y Carrier	96.8		40 - 110					12/15/16 11:24	01/17/17 20:16	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	0.700		0.525	0.527	5.00	0.647	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28904 MW-2L

Lab Sample ID: 400-130978-3

Date Collected: 11/21/16 13:35

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0632	U	0.352	0.352	1.00	0.680	pCi/L	12/15/16 11:24	01/18/17 20:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.6		40 - 110					12/15/16 11:24	01/18/17 20:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.474	U	0.356	0.359	1.00	0.559	pCi/L	12/15/16 11:24	01/17/17 20:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	76.6		40 - 110					12/15/16 11:24	01/17/17 20:17	1
Y Carrier	93.1		40 - 110					12/15/16 11:24	01/17/17 20:17	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	0.537	U	0.501	0.503	5.00	0.680	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28905 MW-1L

Lab Sample ID: 400-130978-4

Date Collected: 11/21/16 14:31

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.379	U *	0.430	0.432	1.00	0.696	pCi/L	12/15/16 11:24	01/18/17 20:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.1		40 - 110					12/15/16 11:24	01/18/17 20:40	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.428	U	0.446	0.447	1.00	0.727	pCi/L	12/15/16 11:24	01/17/17 20:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.1		40 - 110					12/15/16 11:24	01/17/17 20:17	1
Y Carrier	93.5		40 - 110					12/15/16 11:24	01/17/17 20:17	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	0.807		0.619	0.622	5.00	0.727	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28896 MW-3

Lab Sample ID: 400-130978-5

Date Collected: 11/21/16 11:33

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0782	U *	0.314	0.314	1.00	0.609	pCi/L	12/15/16 11:24	01/18/17 20:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.4		40 - 110					12/15/16 11:24	01/18/17 20:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.686		0.390	0.395	1.00	0.586	pCi/L	12/15/16 11:24	01/17/17 20:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.4		40 - 110					12/15/16 11:24	01/17/17 20:17	1
Y Carrier	95.7		40 - 110					12/15/16 11:24	01/17/17 20:17	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	0.764		0.501	0.505	5.00	0.609	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28897 MW-4

Lab Sample ID: 400-130978-6

Date Collected: 11/21/16 12:47

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.641	*	0.451	0.455	1.00	0.597	pCi/L	12/15/16 11:24	01/18/17 20:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.9		40 - 110					12/15/16 11:24	01/18/17 20:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.925		0.420	0.428	1.00	0.598	pCi/L	12/15/16 11:24	01/17/17 20:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.9		40 - 110					12/15/16 11:24	01/17/17 20:18	1
Y Carrier	90.1		40 - 110					12/15/16 11:24	01/17/17 20:18	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	1.57		0.616	0.625	5.00	0.598	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28898 MW-4 DUP

Lab Sample ID: 400-130978-7

Date Collected: 11/21/16 12:47

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.352	U *	0.360	0.362	1.00	0.561	pCi/L	12/15/16 11:24	01/18/17 20:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.5		40 - 110					12/15/16 11:24	01/18/17 20:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.902		0.419	0.427	1.00	0.607	pCi/L	12/15/16 11:24	01/17/17 20:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.5		40 - 110					12/15/16 11:24	01/17/17 20:18	1
Y Carrier	94.6		40 - 110					12/15/16 11:24	01/17/17 20:18	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	1.25		0.553	0.560	5.00	0.607	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28899 FB-1

Lab Sample ID: 400-130978-8

Date Collected: 11/21/16 13:20

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0915	U *	0.215	0.215	1.00	0.518	pCi/L	12/15/16 11:24	01/18/17 20:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					12/15/16 11:24	01/18/17 20:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.228	U	0.312	0.313	1.00	0.521	pCi/L	12/15/16 11:24	01/17/17 20:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.3		40 - 110					12/15/16 11:24	01/17/17 20:18	1
Y Carrier	93.1		40 - 110					12/15/16 11:24	01/17/17 20:18	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	0.136	U	0.379	0.380	5.00	0.521	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28900 MW-8

Lab Sample ID: 400-130978-9

Date Collected: 11/21/16 14:23

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.498	U *	0.565	0.567	1.00	0.918	pCi/L	12/15/16 11:24	01/18/17 20:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	51.3		40 - 110					12/15/16 11:24	01/18/17 20:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.489	U	0.499	0.501	1.00	0.812	pCi/L	12/15/16 11:24	01/17/17 20:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	51.3		40 - 110					12/15/16 11:24	01/17/17 20:18	1
Y Carrier	93.8		40 - 110					12/15/16 11:24	01/17/17 20:18	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	0.987		0.754	0.757	5.00	0.918	pCi/L		01/20/17 08:52	1

Client Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28901 EB-1

Lab Sample ID: 400-130978-10

Date Collected: 11/21/16 14:55

Matrix: Water

Date Received: 12/05/16 15:02

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.257	U *	0.340	0.341	1.00	0.569	pCi/L	12/15/16 11:24	01/18/17 20:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					12/15/16 11:24	01/18/17 20:41	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.166	U	0.270	0.270	1.00	0.457	pCi/L	12/15/16 11:24	01/17/17 20:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					12/15/16 11:24	01/17/17 20:18	1
Y Carrier	96.1		40 - 110					12/15/16 11:24	01/17/17 20:18	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	0.423	U	0.434	0.435	5.00	0.569	pCi/L		01/20/17 08:52	1

Definitions/Glossary

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

TestAmerica Job ID: 400-130978-1
SDG: Gorgas Gypsum (4)

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
*	LCS or LCSD is outside acceptance limits.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-130978-1
SDG: Gorgas Gypsum (4)

Client Sample ID: AW28902 MW-4L

Lab Sample ID: 400-130978-1

Date Collected: 11/21/16 10:54

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288220	01/18/17 20:16	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28903 MW-3L

Lab Sample ID: 400-130978-2

Date Collected: 11/21/16 12:27

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288149	01/18/17 20:20	KLS	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28904 MW-2L

Lab Sample ID: 400-130978-3

Date Collected: 11/21/16 13:35

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288149	01/18/17 20:20	KLS	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:17	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28905 MW-1L

Lab Sample ID: 400-130978-4

Date Collected: 11/21/16 14:31

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:40	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:17	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-130978-1
SDG: Gorgas Gypsum (4)

Client Sample ID: AW28896 MW-3

Lab Sample ID: 400-130978-5

Date Collected: 11/21/16 11:33

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:41	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:17	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28897 MW-4

Lab Sample ID: 400-130978-6

Date Collected: 11/21/16 12:47

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:41	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:18	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28898 MW-4 DUP

Lab Sample ID: 400-130978-7

Date Collected: 11/21/16 12:47

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:41	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:18	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28899 FB-1

Lab Sample ID: 400-130978-8

Date Collected: 11/21/16 13:20

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:41	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:18	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Client Sample ID: AW28900 MW-8

Lab Sample ID: 400-130978-9

Date Collected: 11/21/16 14:23

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:41	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:18	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	RTM	TAL SL

Client Sample ID: AW28901 EB-1

Lab Sample ID: 400-130978-10

Date Collected: 11/21/16 14:55

Matrix: Water

Date Received: 12/05/16 15:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			284103	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9315		1	288207	01/18/17 20:41	ALD	TAL SL
Total/NA	Prep	PrecSep_0			284104	12/15/16 11:24	SCB	TAL SL
Total/NA	Analysis	9320		1	287966	01/17/17 20:18	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	288519	01/20/17 08:52	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: 400-130978-1
SDG: Gorgas Gypsum (4)

Rad

Prep Batch: 284103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-130978-1	AW28902 MW-4L	Total/NA	Water	PrecSep-21	
400-130978-2	AW28903 MW-3L	Total/NA	Water	PrecSep-21	
400-130978-3	AW28904 MW-2L	Total/NA	Water	PrecSep-21	
400-130978-4	AW28905 MW-1L	Total/NA	Water	PrecSep-21	
400-130978-5	AW28896 MW-3	Total/NA	Water	PrecSep-21	
400-130978-6	AW28897 MW-4	Total/NA	Water	PrecSep-21	
400-130978-7	AW28898 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-130978-8	AW28899 FB-1	Total/NA	Water	PrecSep-21	
400-130978-9	AW28900 MW-8	Total/NA	Water	PrecSep-21	
400-130978-10	AW28901 EB-1	Total/NA	Water	PrecSep-21	
MB 160-284103/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-284103/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-130978-5 DU	AW28896 MW-3	Total/NA	Water	PrecSep-21	

Prep Batch: 284104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-130978-1	AW28902 MW-4L	Total/NA	Water	PrecSep_0	
400-130978-2	AW28903 MW-3L	Total/NA	Water	PrecSep_0	
400-130978-3	AW28904 MW-2L	Total/NA	Water	PrecSep_0	
400-130978-4	AW28905 MW-1L	Total/NA	Water	PrecSep_0	
400-130978-5	AW28896 MW-3	Total/NA	Water	PrecSep_0	
400-130978-6	AW28897 MW-4	Total/NA	Water	PrecSep_0	
400-130978-7	AW28898 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-130978-8	AW28899 FB-1	Total/NA	Water	PrecSep_0	
400-130978-9	AW28900 MW-8	Total/NA	Water	PrecSep_0	
400-130978-10	AW28901 EB-1	Total/NA	Water	PrecSep_0	
MB 160-284104/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-284104/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-130978-5 DU	AW28896 MW-3	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-284103/1-A
Matrix: Water
Analysis Batch: 288220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 284103

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2259	U	0.326	0.326	1.00	0.555	pCi/L	12/15/16 11:24	01/18/17 20:16	1
Carrier	%Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		40 - 110					12/15/16 11:24	01/18/17 20:16	1

Lab Sample ID: LCS 160-284103/2-A
Matrix: Water
Analysis Batch: 288220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 284103

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	14.8	24.78	*	2.98	1.00	0.542	pCi/L	167	68 - 137
Carrier	%Yield	LCS Qualifier	Limits						
Ba Carrier	81.5		40 - 110						

Lab Sample ID: 400-130978-5 DU
Matrix: Water
Analysis Batch: 288207

Client Sample ID: AW28896 MW-3
Prep Type: Total/NA
Prep Batch: 284103

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.0782	U *	0.1314	U *	0.298	1.00	0.547	pCi/L	0.09	1
Carrier	%Yield	DU Qualifier	Limits							
Ba Carrier	78.3		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-284104/1-A
Matrix: Water
Analysis Batch: 287966

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 284104

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09952	U	0.325	0.325	1.00	0.565	pCi/L	12/15/16 11:24	01/17/17 20:16	1
Carrier	%Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.0		40 - 110					12/15/16 11:24	01/17/17 20:16	1
Y Carrier	89.3		40 - 110					12/15/16 11:24	01/17/17 20:16	1

QC Sample Results

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

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

Lab Sample ID: LCS 160-284104/2-A
Matrix: Water
Analysis Batch: 287966

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 284104

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	18.6	18.39		2.02	1.00	0.534	pCi/L	99	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	81.5		40 - 110
Y Carrier	93.1		40 - 110

Lab Sample ID: 400-130978-5 DU
Matrix: Water
Analysis Batch: 287966

Client Sample ID: AW28896 MW-3
Prep Type: Total/NA
Prep Batch: 284104

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.686		0.6040		0.394	1.00	0.602	pCi/L	0.10	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	78.3		40 - 110
Y Carrier	92.3		40 - 110

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-130978-5 DU
Matrix: Water
Analysis Batch: 288519

Client Sample ID: AW28896 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	0.764		0.7354		0.494	5.00	0.602	pCi/L	0.03	

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record



Client Information				Sampler: Ben Rothschild	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-56525-24537.1																									
Client Contact: Sarah Copeland				Phone:	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1																									
Company: Alabama Power General Test Laboratory				Analysis Re				Job #: 400-130978																								
Address: 744 County Rd 87 GSC #8																																
City: Calera				Due Date Requested:				Preservation Codes:																								
State, Zip: AL, 35040				TAT Requested (days): Routine																												
Phone: 205-664-6121(Tel)				PO #:				<table border="0"> <tr><td>A - HCL</td><td>M - Hexane</td></tr> <tr><td>B - NaOH</td><td>N - None</td></tr> <tr><td>C - Zn Acetate</td><td>O - AsNaO2</td></tr> <tr><td>D - Nitric Acid</td><td>P - Na2O4S</td></tr> <tr><td>E - NaHSO4</td><td>Q - Na2SO3</td></tr> <tr><td>F - MeOH</td><td>R - Na2S2O3</td></tr> <tr><td>G - Amchlor</td><td>S - H2SO4</td></tr> <tr><td>H - Ascorbic Acid</td><td>T - TSP Dodecahydrate</td></tr> <tr><td>I - Ice</td><td>U - Acetone</td></tr> <tr><td>J - DI Water</td><td>V - MCAA</td></tr> <tr><td>K - EDTA</td><td>W - ph 4-5</td></tr> <tr><td>L - EDA</td><td>Z - other (specify)</td></tr> </table>	A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - ph 4-5	L - EDA	Z - other (specify)
A - HCL	M - Hexane																															
B - NaOH	N - None																															
C - Zn Acetate	O - AsNaO2																															
D - Nitric Acid	P - Na2O4S																															
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G - Amchlor	S - H2SO4																															
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J - DI Water	V - MCAA																															
K - EDTA	W - ph 4-5																															
L - EDA	Z - other (specify)																															
Email: sgcopela@southernco.com				WO #:																												
Project Name: CCR				Project #: 40007143																												
Site: Gorgas Gypsum (4)				SSOW#:																												
Sample Identification				Field/Effected Sample (Yes or No)	Perform MS/SD/YES or NO	400-130978 COC		Special Instructions/Note:																								
Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	<input type="checkbox"/>	<input type="checkbox"/>																											
				<input type="checkbox"/>	<input type="checkbox"/>																											
AW28896	11/21/16	1133	G Water	Y	X			MW-3																								
AW28897	11/21/16	1247	G Water		X			MW-4																								
AW28898	11/21/16	1247	G Water		X			MW-4 Dup (Sample Duplicate)																								
AW28899	11/21/16	1320	G Water		X			FB-1 (Field Blank)																								
AW28900	11/21/16	1423	G Water		X			MW-8																								
AW28901	11/21/16	1455	G Water		X			EB-1 (Equipment Blank)																								
AW28902	11/21/16	1054	G Water		X			MW-4L																								
AW28903	11/21/16	1227	G Water		X			MW-3L																								
AW28904	11/21/16	1335	G Water		X			MW-2L																								
AW28905	11/21/16	1431	G Water		X			MW-1L																								
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																												
<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				<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																												
Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/QC Requirements:																												
Empty Kit Relinquished by:				Date:	Time:	Method of Shipment:																										
Relinquished by: Sarah Copeland				Date/Time: 12/05/2016; 1005	Company APC	Received by:	Date/Time:	Company																								
Relinquished by:				Date/Time:	Company	Received by:	Date/Time:	Company																								
Relinquished by:				Date/Time:	Company	Received by: <i>CCH</i>	Date/Time: 12/05/16 1502 TA	Company																								
Custody Seals Intact: △ Yes △ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																												

Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-130978-1
SDG Number: Gorgas Gypsum (4)

Login Number: 130978

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	Thermal preservation not required.
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	



Certification Summary

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

TestAmerica Job ID: 400-130978-1
 SDG: Gorgas Gypsum (4)

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-16 *
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-17 *
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	12-01-16 *
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17
New York	NELAP	2	11616	03-31-17 *
North Dakota	State Program	8	R207	06-30-17

* Certification renewal pending - certification considered valid.

Certification Summary

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

TestAmerica Job ID: 400-130978-1
SDG: Gorgas Gypsum (4)

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-17 *
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-14-0016	01-09-17 *
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

* Certification renewal pending - 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

Analytical Report

 Alabama Power



Sample Group : WMWGORG_1071

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1071

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>Chloride Batch ID</u>	<u>Fluoride Batch ID</u>	<u>Sulfate Batch ID</u>	<u>Project ID</u>
AX01201	585659	585661	585663	WMWGORG_1071
AX01202	585659	585661	585663	WMWGORG_1071
AX01203	585659	585661	585663	WMWGORG_1071
AX01204	585659	585661	585663	WMWGORG_1071
AX01205	585659	585661	585663	WMWGORG_1071
AX01206	585659	585661	585663	WMWGORG_1071
AX01207	585659	585661	585663	WMWGORG_1071
AX01208	585659	585661	585663	WMWGORG_1071
AX01209	585659	585661	585663	WMWGORG_1071
AX01210	585659	585661	585663	WMWGORG_1071

4. All of the above samples were analyzed and prepared by EPA 300.0.
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 instrument performance check (IPC) was analyzed and all criteria were met.
- All laboratory reagent blanks were less than the method detection limits for the requested anions.
- All laboratory fortified blanks (LFB) were within acceptance criteria for the anions requested, with the following exceptions: (1) no opening or closing LFB were listed or run for the fluoride analyses on 01-23-2017. Due to absence of an opening and closing LFB, the reported results for the following samples for fluoride are qualified as quantitatively estimated with indeterminate bias direction and magnitude: AX01201, AX01202 and AX01203. (2) no closing LFB was listed or run for the dilution re-analyses for chloride and sulfate. Due to absence of a closing LFB, the reported results for the following sample dilutions are qualified as quantitatively estimated with indeterminate bias direction and magnitude: for chloride, AX01201, AX01202 and AX01203; for sulfate, AX01201, AX01202, AX01203, AX01204, AX01207, AX01208, AX01209 and AX01210.



- 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 laboratory fortified matrix sample was analyzed with each batch. All acceptance criteria for accuracy were met.
 - A sample duplicate and/or laboratory fortified matrix duplicate were analyzed with each batch. All acceptance criteria for precision were met. It is noted that separate and distinct criteria for duplicate precision calculations, based on sample and duplicate anion concentrations, are used to assess precision compliance. These are as follow: if the sample and duplicate are both greater than 5x anion Reporting Limit (RL) concentration, the precision is calculated and reported as relative percent difference (RPD), with an acceptance range of 0 - 20%; if either the sample or duplicate are less than 5x anion RL, the precision is calculated and reported as the absolute value of the difference between the two concentrations, with an acceptance range of less than or equal to the anion RL value.
7. Samples AX01201, AX01202 and AX01203 were re-analyzed for chloride and sulfate at a 20x dilution, and samples AX01204, AX01207, AX01208, AX01209 and AX01210 were re-analyzed at a 20x dilution for sulfate, due to the undiluted results exceeding the calibrated range of the detector. The dilution results for chloride and sulfate for these respective samples should be used; reporting limit (RL) values are adjusted upward to reflect the dilution factor applied.

<u>Sample ID</u>		<u>Analyte</u>		<u>Dilution Factor</u>
AX01201		Chloride, Sulfate		20X
AX01202		Chloride, Sulfate		20X
AX01203		Chloride, Sulfate		20X
AX01204		Sulfate		20X
AX01207		Sulfate		20X
AX01208		Sulfate		20X
AX01209		Sulfate		20X
AX01210		Sulfate		20X

8. The raw data results are shown with dilution factors included, when dilutions are manually performed by the analyst.
 The raw data results are shown without dilution factor corrections, when dilutions are run automatically by the instrument.



Metals ICP

Gorgas Gypsum

WMWGORG_1071

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AX01201	20170214_20170328_20170517C	WMWGORG_1071
AX01202	20170214_20170328_20170517C	WMWGORG_1071
AX01203	20170214_20170328_20170517C	WMWGORG_1071
AX01204	20170214_20170328_20170517C	WMWGORG_1071
AX01205	20170214_20170328_20170517C	WMWGORG_1071
AX01206	20170214_20170328_20170517C	WMWGORG_1071
AX01207	20170214_20170328_20170517C	WMWGORG_1071
AX01208	20170214_20170328_20170517C	WMWGORG_1071
AX01209	20170214_20170328_20170517C	WMWGORG_1071
AX01210	20170214_20170328_20170517C	WMWGORG_1071

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.
7. Original run 20170214 was rescheduled due to sample mislabeling and no data was reported from run. Data for Boron and Calcium were reported from run 20170328. Lithium high calibration standard failed due to higher than 10% error which caused re-analysis and batch 20170517C. All Lithium data was reported from run 20170517C.

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. The data reported from 20170328 had an additional CCV run between each sample for monitoring possible Lithium matrix issues.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes. The data reported from 20170328 and 20170517C runs had an additional blank rinse between each sample to monitor potential Lithium matrix issues.
- 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, with the exception of Lithium from run 20170328. The run, 20170328, had a greater than 10% high standard error. Lithium was re-run in batch 20170517C with acceptable results.
- 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:

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AX01210

The concentration of this analyte in the matrix spike was less than 30 percent of the concentration of the sample, causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
8. All samples were analyzed at 2X dilution to compensate for any matrix effects. The following samples were diluted due to sample concentrations over the high standard of the calibration curve.

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Calera, AL 35040
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Case Narrative



<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AX01201	Calcium	100X
AX01202	Calcium	100X
AX01203	Calcium	10X
AX01204	Calcium	100X
AX01207	Calcium	10X
AX01208	Calcium	10X
AX01209	Calcium	100X
AX01210	Calcium	100X
AX01210 MS	Calcium	100X
AX01210 MSD	Calcium	100X

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



Metals ICPMS

Gorgas Gypsum

WMWGORG_1071

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AX01201	587017	WMWGORG_1071
AX01202	587017	WMWGORG_1071
AX01203	587017	WMWGORG_1071
AX01204	587017	WMWGORG_1071
AX01205	587017	WMWGORG_1071
AX01206	587017	WMWGORG_1071
AX01207	587017	WMWGORG_1071
AX01208	587017	WMWGORG_1071
AX01209	587017	WMWGORG_1071
AX01210	587017	WMWGORG_1071

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_1071

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AX01201	585644	WMWGORG_1071
AX01202	585644	WMWGORG_1071
AX01203	586036	WMWGORG_1071
AX01204	586036	WMWGORG_1071
AX01205	586036	WMWGORG_1071
AX01206	586036	WMWGORG_1071
AX01207	586036	WMWGORG_1071
AX01208	586036	WMWGORG_1071
AX01209	586036	WMWGORG_1071
AX01210	586036	WMWGORG_1071

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_1071

1. This report consists of all MWs and corresponding Lab IDs listed on the Chain of Custody.
2. All samples were received intact and properly preserved.
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>
AX01201	585590	WMWGORG_1071
AX01202	585590	WMWGORG_1071
AX01203	585590	WMWGORG_1071
AX01204	585590	WMWGORG_1071
AX01205	585590	WMWGORG_1071
AX01206	585590	WMWGORG_1071
AX01207	585590	WMWGORG_1071
AX01208	585590	WMWGORG_1071
AX01209	585590	WMWGORG_1071
AX01210	585590	WMWGORG_1071

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 0.5 mg 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 2.5 mg and 200 mg residue with the exception of AX01205 and AX01206, which were less than 2.5mg.

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX01201

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0125	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	J 0.00170	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	2.63	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		100	10.0	50	572	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0793	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/20/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	0.497	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		250	4330	mg/L
* Chloride, Total	SES	1/23/2017	EPA 300.0		40	1.60	10	301	mg/L
* Fluoride, Total	SES	1/23/2017	EPA 300.0		1	0.01	0.3	0.340	mg/L
* Sulfate, Total	SES	1/23/2017	EPA 300.0		40	12.0	40	2950	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX01201

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit	
			MB	Limit					Limit	Rec	Limit	Prec			
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130		2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130		2.46	20
AX01202	Mercury, Total by CVAA	mg/L	0.000101	0.0005	0.004	0.00385	0.00385	0.00397	0.0034 to 0.0046		96.3	70 to 130		0.104	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130		0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130		0.344	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130		8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130		0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130		0.667	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130		3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130		2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130		0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130		1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130		1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130		1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130		1.55	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

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Expiration: June 30, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX01201

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25			1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1	0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14	0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4	0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

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Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3 Dup

Laboratory ID Number: AX01202

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0121	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	J 0.00195	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	2.64	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		100	10.0	50	564	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0791	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/20/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	0.489	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		250	4790	mg/L
* Chloride, Total	SES	1/23/2017	EPA 300.0		40	1.60	10	295	mg/L
* Fluoride, Total	SES	1/23/2017	EPA 300.0		1	0.01	0.3	0.329	mg/L
* Sulfate, Total	SES	1/23/2017	EPA 300.0		40	12.0	40	2880	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.

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3 Dup

Laboratory ID Number: AX01202

Sample	Analysis	Units	MB	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit	
				Limit	Spike				Limit	Rec	Limit	Prec			
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130		2.54	20
AX01202	Mercury, Total by CVAA	mg/L	0.000101	0.0005	0.004	0.00385	0.00385	0.00397	0.0034 to 0.0046		96.3	70 to 130		0.104	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130		2.46	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130		0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130		0.344	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130		3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130		2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130		0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130		1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130		1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130		1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130		1.55	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130		8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130		0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130		0.667	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3 Dup

Laboratory ID Number: AX01202

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25			1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1	0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14	0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4	0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX01203

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0119	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	0.00488	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	3.97	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		10	1.0	5	102	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	0.00131	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.160	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	0.270	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	J 0.00263	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		100	988	mg/L
* Chloride, Total	SES	1/21/2017	EPA 300.0		20	0.80	5	99.3	mg/L
* Fluoride, Total	SES	1/23/2017	EPA 300.0		1	0.01	0.3	0.571	mg/L
* Sulfate, Total	SES	1/21/2017	EPA 300.0		20	6.0	20	637	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX01203

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046		96.4	70 to 130	0.449	20
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130	2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130	2.46	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130	0.667	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130	0.344	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130	1.55	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX01203

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25				1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1		0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14		0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4		0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

Reported: 6/22/2017
 Version: 2.0

Alabama Power General Test Laboratory
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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX01204

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	J 0.00103	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0402	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	J 0.0607	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		100	10.0	50	231	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0708	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	0.0516	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		125	2380	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	7.22	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	J 0.070	mg/L
* Sulfate, Total	SES	1/21/2017	EPA 300.0		20	6.0	20	1150	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX01204

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046	96.4	70 to 130	0.449	20
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115	104	70 to 130	2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115	91.3	70 to 130	2.46	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115	98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115	98.2	70 to 130	0.344	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75	34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115	91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115	107	70 to 130	0.667	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15	96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23	123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115	105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115	114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115	116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115	107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115	108	70 to 130	1.55	20

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX01204

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25				1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1		0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14		0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4		0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

CC:

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 FAX (205) 257-1654

Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX01205

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	1/20/2017	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX01205

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046	96.4	70 to 130	0.449	20
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115	104	70 to 130	2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115	91.3	70 to 130	2.46	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115	98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115	98.2	70 to 130	0.344	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75	34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115	91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115	107	70 to 130	0.667	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15	96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23	123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115	105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115	114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115	116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115	107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115	108	70 to 130	1.55	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGFB
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX01205

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	LFB	Rec	Prec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25			1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1	0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14	0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4	0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX01206

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	U Not Detected	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	U Not Detected	mg/L
* Sulfate, Total	SES	1/20/2017	EPA 300.0		1	0.3	1	U Not Detected	mg/L

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Laboratory certification ID: E571114

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Expiration: June 30, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX01206

Sample	Analysis	Units	MB	MB			LFB			Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115	104	70 to 130	2.54	20
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046	96.4	70 to 130	0.449	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115	91.3	70 to 130	2.46	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115	98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115	98.2	70 to 130	0.344	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15	96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23	123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115	105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115	114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115	116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115	107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115	108	70 to 130	1.55	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75	34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115	91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115	107	70 to 130	0.667	20

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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
 John Pugh

Customer Account: WMWGORGEB
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX01206

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
			Limit	Limit			Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25			1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1	0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14	0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4	0.116	20.8	18 to 22	102	80 to 120	0.00	20

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

Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX01207

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	J 0.00929	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	J 0.0201	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		10	1.0	5	131	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	0.00200	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0768	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	J 0.0228	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		167	1930	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	2.68	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	J 0.090	mg/L
* Sulfate, Total	SES	1/21/2017	EPA 300.0		20	6.0	20	1350	mg/L

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 Calera, AL 35040
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 FAX (205) 257-1654

Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX01207

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046		96.4	70 to 130	0.449	20
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130	2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130	2.46	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130	0.667	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130	0.344	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130	1.55	20

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Comments:

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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX01207

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25			1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1	0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14	0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4	0.116	20.8	18 to 22	102	80 to 120	0.00	20

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 FAX (205) 257-1654

Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX01208

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0135	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	J 0.0259	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		10	1.0	5	188	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	J 0.000311	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0745	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	0.0636	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		125	1960	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	3.58	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	J 0.066	mg/L
* Sulfate, Total	SES	1/21/2017	EPA 300.0		20	6.0	20	1160	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX01208

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046		96.4	70 to 130	0.449	20
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130	2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130	2.46	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130	0.344	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130	0.667	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130	1.55	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, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 17-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX01208

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25				1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1		0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14		0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4		0.116	20.8	18 to 22	102	80 to 120	0.00	20

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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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 18-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX01209

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	J 0.00966	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	0.0169	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	J 0.0548	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		100	10.0	50	431	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	0.00300	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.347	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	0.237	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		250	4020	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	1.34	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	0.385	mg/L
* Sulfate, Total	SES	1/23/2017	EPA 300.0		40	12.0	40	2620	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 18-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX01209

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit	
			MB	Limit					Limit	Rec	Limit	Prec			
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130		2.54	20
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046		96.4	70 to 130		0.449	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130		2.46	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130		0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130		0.344	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130		8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130		0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130		0.667	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130		3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130		2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130		0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130		1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130		1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130		1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130		1.55	20

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Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 18-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX01209

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25				1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1		0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14		0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4		0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments:

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 18-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX01210

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Radiological									
Total Radium, Test America	SGC	3/20/2017	EPA 9315/9320		1			Attached	
Metals, Cyanide, Total Phenols									
* Antimony, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Arsenic, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	0.0101	mg/L
* Beryllium, Total	JHK	2/13/2017	EPA 200.8		5	0.00060	0.0030	U Not Detected	mg/L
* Boron, Total	HRG	3/28/2017	EPA 200.7		2	0.02	0.1	J 0.0445	mg/L
* Calcium, Total	HRG	3/28/2017	EPA 200.7		100	10.0	50	417	mg/L
* Cadmium, Total	JHK	2/13/2017	EPA 200.8		5	0.0002	0.0010	U Not Detected	mg/L
* Cobalt, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Chromium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Mercury, Total by CVAA	MCW	1/27/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	J 0.0450	mg/L
* Molybdenum, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Lead, Total	JHK	2/13/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	2/13/2017	EPA 200.8		5	0.0020	0.010	U Not Detected	mg/L
* Thallium, Total	JHK	2/13/2017	EPA 200.8		5	0.00020	0.0010	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	1/20/2017	SM 2540C		1		250	4120	mg/L
* Chloride, Total	SES	1/20/2017	EPA 300.0		1	0.04	0.25	1.90	mg/L
* Fluoride, Total	SES	1/20/2017	EPA 300.0		1	0.01	0.3	J 0.223	mg/L
* Sulfate, Total	SES	1/23/2017	EPA 300.0		40	12.0	40	2650	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of spec.
 The spike amount was <30% of the sample amount.

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
 John Pugh

Customer Account: WMWGORG
 Sample Date: 18-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX01210

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX01219	Mercury, Total by CVAA	mg/L	0.000110	0.0005	0.004	0.00386	0.00384	0.00381	0.0034 to 0.0046		96.4	70 to 130	0.449	20
AX01222	Molybdenum, Total	mg/L	0.0000179	0.0044	0.10	0.104	0.102	0.0974	0.085 to 0.115		104	70 to 130	2.54	20
AX01222	Antimony, Total	mg/L	0.0000741	0.00132	0.10	0.0913	0.0891	0.0971	0.085 to 0.115		91.3	70 to 130	2.46	20
AX01210	Calcium, Total	mg/L	-0.00409	0.22	5.00	419	455	4.78	4.25 to 5.75		34.0	70 to 130	8.28	20
AX01222	Barium, Total	mg/L	0.00000487	0.0044	0.10	0.102	0.101	0.0981	0.085 to 0.115		91.7	70 to 130	0.929	20
AX01222	Chromium, Total	mg/L	0.0000150	0.0044	0.10	0.107	0.106	0.103	0.085 to 0.115		107	70 to 130	0.667	20
AX01210	Boron, Total	mg/L	0.000238	0.044	1.00	1.01	1.04	0.951	0.85 to 1.15		96.2	70 to 130	3.42	20
AX01210	Lithium, Total	mg/L	-0.000161	0.022	0.20	0.291	0.300	0.185	0.17 to 0.23		123	70 to 130	2.88	20
AX01222	Arsenic, Total	mg/L	0.0000191	0.0022	0.10	0.105	0.105	0.104	0.085 to 0.115		105	70 to 130	0.0632	20
AX01222	Beryllium, Total	mg/L	0.0000241	0.00132	0.10	0.114	0.113	0.110	0.085 to 0.115		114	70 to 130	1.33	20
AX01222	Cobalt, Total	mg/L	0.00000313	0.0044	0.10	0.116	0.114	0.106	0.085 to 0.115		116	70 to 130	1.54	20
AX01222	Lead, Total	mg/L	0.0000138	0.0022	0.10	0.107	0.105	0.104	0.085 to 0.115		107	70 to 130	1.52	20
AX01222	Thallium, Total	mg/L	0.0000117	0.00044	0.10	0.108	0.106	0.102	0.085 to 0.115		108	70 to 130	1.55	20
AX01222	Cadmium, Total	mg/L	0.0000171	0.00044	0.10	0.0986	0.0983	0.103	0.085 to 0.115		98.6	70 to 130	0.279	20
AX01222	Selenium, Total	mg/L	0.0000402	0.0044	0.10	0.0982	0.0978	0.102	0.085 to 0.115		98.2	70 to 130	0.344	20

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Expiration: June 30, 2017

Comments: Recovery for Calcium is out of spec.
 The spike amount was <30% of the sample amount.

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer
 John Pugh

Customer Account: WMWGORG
 Sample Date: 18-Jan-17
 Customer ID:
 Delivery Date: 18-Jan-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX01210

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
			Limit	Limit			Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX01203	Solids, Dissolved	mg/L	-6.0	25			1060	50.0	40 to 60			3.52	5
AX01206	Chloride, Total	mg/L	0.00	0.25	10.00	10.1	0.00	10.6	9 to 11	101	80 to 120	0.00	20
AX01206	Fluoride, Total	mg/L	0.00	0.3	2.00	2.14	0.00		1.8 to 2.2	107	80 to 120	0.00	20
AX01206	Sulfate, Total	mg/L	0.015	1.0	20.00	20.4	0.116	20.8	18 to 22	102	80 to 120	0.00	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

Comments: Recovery for Calcium is out of spec.
 The spike amount was <30% of the sample amount.

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

Field Complete

Lab Complete

Lab ETA 01/18/2017 13:30

Requested Complete Date	<input type="text" value="Routine"/>	Results To	<input type="text" value="Dustin Brooks, John Pugh, Greg Dyer"/>
Site Representative	<input type="text" value="Che George"/>	Requested By	<input type="text" value="Greg Dyer"/>
Collector	<input type="text" value="Ben Rothschild"/>	Location	<input type="text" value="Gorgas Gypsum"/>
Analysis Requested	<input type="text" value="Bottle 1: Radium 226 & 228 (1) 1L bottle, Bottle 2: Metals and Hg (1) 500 mL bottle, Bottle 3: TDS and Anions (1) 500 mL bottle"/>		
Comments	<input type="text" value="Radium Duplicate collected at MW-4 MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Anthony Goggins as part of Gorgas Landfill sample event. Anthony Goggins SmarTroll ID - 5151-26193-1-1 , Turbidity ID - 4677-23343-4-2"/>		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-3	01/17/2017	12:45	3	Groundwater		AX01201
MW-3 DUP	01/17/2017	12:45	3	Sample Duplicate		AX01202
MW-4	01/17/2017	14:03	5	Groundwater		AX01203
MW-8	01/17/2017	16:52	3	Groundwater		AX01204
FB-1	01/17/2017	17:00	3	Field Blank		AX01205
EB-1	01/17/2017	17:15	3	Equipment Blank		AX01206
MW-1L*	01/17/2017	11:44	0	Groundwater		AX01207
MW-2L*	01/17/2017	12:43	0	Groundwater		AX01208
MW-3L*	01/18/2017	10:42	0	Groundwater		AX01209
MW-4L*	01/18/2017	11:38	0	Groundwater		AX01210

Relinquished By	Received By	Date/Time
<i>Ben Rothschild</i>	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o.ou, email=sgcopela@southernco.com, c=US Date: 2017.01.18 15:40:48 -0600</small>	01/18/2017 15:40

SmarTroll ID	<input type="text" value="4696-23441-1-1"/>	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	<input type="text" value="3901-20010-2-2"/>	Cooler Temp
		<input type="text" value="1.0 degrees C"/>
		Thermometer ID
		<input type="text" value="5408-27568-2-2"/>
		pH Strip ID
		<input type="text" value="5521-28267-20-11"/>

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: 400-133551-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (5)

Client Project/Site: CCR Plant Gorgas

For:

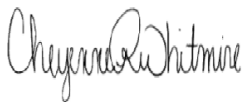
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

3/18/2017 4:17:59 PM

Cheyenne Whitmire, Project Manager II

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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: 400-133551-1
SDG: Gorgas Gypsum (5)

Job ID: 400-133551-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-133551-1

RAD

Method(s) PrecSep_0: Radium-228 Prep Batch 160-293137: The following samples were run at a reduced aliquot due to limited sample volume available: AX01201 MW-3 (400-133551-1), AX01202 MW-3 DUP (400-133551-2), AX01203 MW-4 (400-133551-3), AX01203 MW-4 (400-133551-3[DUJ]), AX01204 MW-8 (400-133551-4), AX01205 FB-1 (400-133551-5), AX01206 EB-1 (400-133551-6), AX01207 MW-1 (400-133551-7), AX01208 MW-2 (400-133551-8), AX01209 MW-3 (400-133551-9) and AX01210 MW-4 (400-133551-10).

Method(s) PrecSep-21: Radium-228 Prep Batch 160-293086: The following samples were run at a reduced aliquot due to limited sample volume available: AX01201 MW-3 (400-133551-1), AX01202 MW-3 DUP (400-133551-2), AX01203 MW-4 (400-133551-3), AX01203 MW-4 (400-133551-3[DUJ]), AX01204 MW-8 (400-133551-4), AX01205 FB-1 (400-133551-5), AX01206 EB-1 (400-133551-6), AX01207 MW-1 (400-133551-7), AX01208 MW-2 (400-133551-8), AX01209 MW-3 (400-133551-9) and AX01210 MW-4 (400-133551-10).

Method Summary

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

TestAmerica Job ID: 400-133551-1
SDG: Gorgas Gypsum (5)

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: 400-133551-1
SDG: Gorgas Gypsum (5)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-133551-1	AX01201 MW-3	Water	01/17/17 12:45	02/06/17 14:00
400-133551-2	AX01202 MW-3 DUP	Water	01/17/17 12:45	02/06/17 14:00
400-133551-3	AX01203 MW-4	Water	01/17/17 14:03	02/06/17 14:00
400-133551-4	AX01204 MW-8	Water	01/17/17 16:52	02/06/17 14:00
400-133551-5	AX01205 FB-1	Water	01/17/17 17:00	02/06/17 14:00
400-133551-6	AX01206 EB-1	Water	01/17/17 17:15	02/06/17 14:00
400-133551-7	AX01207 MW-1L	Water	01/17/17 11:44	02/06/17 14:00
400-133551-8	AX01208 MW-2L	Water	01/17/17 12:43	02/06/17 14:00
400-133551-9	AX01209 MW-3L	Water	01/18/17 10:42	02/06/17 14:00
400-133551-10	AX01210 MW-4L	Water	01/18/17 11:38	02/06/17 14:00

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01201 MW-3

Lab Sample ID: 400-133551-1

Date Collected: 01/17/17 12:45

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0911	U	0.102	0.102	1.00	0.163	pCi/L	02/17/17 10:58	03/13/17 04:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					02/17/17 10:58	03/13/17 04:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0996	U	0.267	0.267	1.00	0.462	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	90.1		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.191	U	0.285	0.286	5.00	0.462	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01202 MW-3 DUP

Lab Sample ID: 400-133551-2

Date Collected: 01/17/17 12:45

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0578	U	0.0808	0.0810	1.00	0.197	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.125	U	0.334	0.334	1.00	0.574	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	90.5		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.0676	U	0.344	0.344	5.00	0.574	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01203 MW-4

Lab Sample ID: 400-133551-3

Date Collected: 01/17/17 14:03

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0755	U	0.110	0.111	1.00	0.188	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.417	U	0.305	0.308	1.00	0.476	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	90.5		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.493		0.325	0.327	5.00	0.476	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01204 MW-8

Lab Sample ID: 400-133551-4

Date Collected: 01/17/17 16:52

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.175	U	0.129	0.130	1.00	0.180	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.301	U	0.329	0.330	1.00	0.538	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	88.6		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.476	U	0.353	0.355	5.00	0.538	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01205 FB-1

Lab Sample ID: 400-133551-5

Date Collected: 01/17/17 17:00

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0149	U	0.0989	0.0990	1.00	0.191	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0488	U	0.272	0.272	1.00	0.479	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	88.6		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.0638	U	0.290	0.290	5.00	0.479	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01206 EB-1

Lab Sample ID: 400-133551-6

Date Collected: 01/17/17 17:15

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.157	U	0.117	0.118	1.00	0.165	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.292	0.292	1.00	0.497	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	90.8		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.308	U	0.315	0.315	5.00	0.497	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01207 MW-1L

Lab Sample ID: 400-133551-7

Date Collected: 01/17/17 11:44

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.147	U	0.138	0.139	1.00	0.215	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.161	U	0.392	0.392	1.00	0.670	pCi/L	02/17/17 18:26	03/07/17 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.5		40 - 110					02/17/17 18:26	03/07/17 14:19	1
Y Carrier	86.4		40 - 110					02/17/17 18:26	03/07/17 14:19	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	0.308	U	0.416	0.416	5.00	0.670	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01208 MW-2L

Lab Sample ID: 400-133551-8

Date Collected: 01/17/17 12:43

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0513	U	0.115	0.115	1.00	0.209	pCi/L	02/17/17 10:58	03/13/17 04:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					02/17/17 10:58	03/13/17 04:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0672	U	0.366	0.366	1.00	0.662	pCi/L	02/17/17 18:26	03/07/17 14:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110					02/17/17 18:26	03/07/17 14:20	1
Y Carrier	88.6		40 - 110					02/17/17 18:26	03/07/17 14:20	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	-0.0159	U	0.383	0.383	5.00	0.662	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01209 MW-3L

Lab Sample ID: 400-133551-9

Date Collected: 01/18/17 10:42

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0627	U	0.103	0.103	1.00	0.179	pCi/L	02/17/17 10:58	03/13/17 04:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					02/17/17 10:58	03/13/17 04:39	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.543		0.341	0.345	1.00	0.522	pCi/L	02/17/17 18:26	03/07/17 14:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					02/17/17 18:26	03/07/17 14:20	1
Y Carrier	86.7		40 - 110					02/17/17 18:26	03/07/17 14:20	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	0.606		0.357	0.360	5.00	0.522	pCi/L		03/14/17 12:39	1

Client Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01210 MW-4L

Lab Sample ID: 400-133551-10

Date Collected: 01/18/17 11:38

Matrix: Water

Date Received: 02/06/17 14:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00995	U	0.0737	0.0737	1.00	0.159	pCi/L	02/17/17 10:58	03/13/17 04:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					02/17/17 10:58	03/13/17 04:40	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0366	U	0.274	0.274	1.00	0.484	pCi/L	02/17/17 18:26	03/07/17 14:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					02/17/17 18:26	03/07/17 14:20	1
Y Carrier	91.2		40 - 110					02/17/17 18:26	03/07/17 14:20	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	0.0267	U	0.284	0.284	5.00	0.484	pCi/L		03/14/17 12:39	1

Definitions/Glossary

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

TestAmerica Job ID: 400-133551-1
SDG: Gorgas Gypsum (5)

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-133551-1
SDG: Gorgas Gypsum (5)

Client Sample ID: AX01201 MW-3

Lab Sample ID: 400-133551-1

Date Collected: 01/17/17 12:45

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01202 MW-3 DUP

Lab Sample ID: 400-133551-2

Date Collected: 01/17/17 12:45

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01203 MW-4

Lab Sample ID: 400-133551-3

Date Collected: 01/17/17 14:03

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01204 MW-8

Lab Sample ID: 400-133551-4

Date Collected: 01/17/17 16:52

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Client Sample ID: AX01205 FB-1

Lab Sample ID: 400-133551-5

Date Collected: 01/17/17 17:00

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01206 EB-1

Lab Sample ID: 400-133551-6

Date Collected: 01/17/17 17:15

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01207 MW-1L

Lab Sample ID: 400-133551-7

Date Collected: 01/17/17 11:44

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:19	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01208 MW-2L

Lab Sample ID: 400-133551-8

Date Collected: 01/17/17 12:43

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297322	03/13/17 04:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:20	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-133551-1
SDG: Gorgas Gypsum (5)

Client Sample ID: AX01209 MW-3L

Lab Sample ID: 400-133551-9

Date Collected: 01/18/17 10:42

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297320	03/13/17 04:39	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:20	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	RTM	TAL SL

Client Sample ID: AX01210 MW-4L

Lab Sample ID: 400-133551-10

Date Collected: 01/18/17 11:38

Matrix: Water

Date Received: 02/06/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			293086	02/17/17 10:58	PJM	TAL SL
Total/NA	Analysis	9315		1	297320	03/13/17 04:40	RTM	TAL SL
Total/NA	Prep	PrecSep_0			293137	02/17/17 18:26	PJM	TAL SL
Total/NA	Analysis	9320		1	296334	03/07/17 14:20	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	297652	03/14/17 12:39	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: 400-133551-1
 SDG: Gorgas Gypsum (5)

Rad

Prep Batch: 293086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-133551-1	AX01201 MW-3	Total/NA	Water	PrecSep-21	
400-133551-2	AX01202 MW-3 DUP	Total/NA	Water	PrecSep-21	
400-133551-3	AX01203 MW-4	Total/NA	Water	PrecSep-21	
400-133551-4	AX01204 MW-8	Total/NA	Water	PrecSep-21	
400-133551-5	AX01205 FB-1	Total/NA	Water	PrecSep-21	
400-133551-6	AX01206 EB-1	Total/NA	Water	PrecSep-21	
400-133551-7	AX01207 MW-1L	Total/NA	Water	PrecSep-21	
400-133551-8	AX01208 MW-2L	Total/NA	Water	PrecSep-21	
400-133551-9	AX01209 MW-3L	Total/NA	Water	PrecSep-21	
400-133551-10	AX01210 MW-4L	Total/NA	Water	PrecSep-21	
MB 160-293086/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-293086/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-133551-3DU	AX01203 MW-4	Total/NA	Water	PrecSep-21	
400-133551-10 DU	AX01210 MW-4L	Total/NA	Water	PrecSep-21	

Prep Batch: 293137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-133551-1	AX01201 MW-3	Total/NA	Water	PrecSep_0	
400-133551-2	AX01202 MW-3 DUP	Total/NA	Water	PrecSep_0	
400-133551-3	AX01203 MW-4	Total/NA	Water	PrecSep_0	
400-133551-4	AX01204 MW-8	Total/NA	Water	PrecSep_0	
400-133551-5	AX01205 FB-1	Total/NA	Water	PrecSep_0	
400-133551-6	AX01206 EB-1	Total/NA	Water	PrecSep_0	
400-133551-7	AX01207 MW-1L	Total/NA	Water	PrecSep_0	
400-133551-8	AX01208 MW-2L	Total/NA	Water	PrecSep_0	
400-133551-9	AX01209 MW-3L	Total/NA	Water	PrecSep_0	
400-133551-10	AX01210 MW-4L	Total/NA	Water	PrecSep_0	
MB 160-293137/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-293137/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-133551-3DU	AX01203 MW-4	Total/NA	Water	PrecSep_0	
400-133551-10 DU	AX01210 MW-4L	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-293086/1-A
Matrix: Water
Analysis Batch: 297322

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 293086

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01132	U	0.0750	0.0750	1.00	0.167	pCi/L	02/17/17 10:58	03/13/17 04:29	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					02/17/17 10:58	03/13/17 04:29	1

Lab Sample ID: LCS 160-293086/2-A
Matrix: Water
Analysis Batch: 297322

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 293086

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.2	14.31		1.53	1.00	0.170	pCi/L	94	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	99.7		40 - 110						

Lab Sample ID: 400-133551-3DU
Matrix: Water
Analysis Batch: 297322

Client Sample ID: AX01203 MW-4
Prep Type: Total/NA
Prep Batch: 293086

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.0755	U	0.04167	U	0.0907	1.00	0.166	pCi/L	0.17	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	88.8		40 - 110							

Lab Sample ID: 400-133551-10 DU
Matrix: Water
Analysis Batch: 297320

Client Sample ID: AX01210 MW-4L
Prep Type: Total/NA
Prep Batch: 293086

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	-0.00995	U	0.01861	U	0.0920	1.00	0.182	pCi/L	0.17	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	96.2		40 - 110							

QC Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-293137/1-A
Matrix: Water
Analysis Batch: 296334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 293137

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.02779	U	0.265	0.265	1.00	0.469	pCi/L	02/17/17 18:26	03/07/17 14:19	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110	02/17/17 18:26	03/07/17 14:19	1
Y Carrier	90.8		40 - 110	02/17/17 18:26	03/07/17 14:19	1

Lab Sample ID: LCS 160-293137/2-A
Matrix: Water
Analysis Batch: 296334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 293137

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	18.3	18.04		1.93	1.00	0.443	pCi/L	98	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	99.7		40 - 110
Y Carrier	91.6		40 - 110

Lab Sample ID: 400-133551-3DU
Matrix: Water
Analysis Batch: 296334

Client Sample ID: AX01203 MW-4
Prep Type: Total/NA
Prep Batch: 293137

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.417	U	0.2939	U	0.312	1.00	0.507	pCi/L	0.20	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	88.8		40 - 110
Y Carrier	89.0		40 - 110

Lab Sample ID: 400-133551-10 DU
Matrix: Water
Analysis Batch: 296334

Client Sample ID: AX01210 MW-4L
Prep Type: Total/NA
Prep Batch: 293137

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.0366	U	0.2263	U	0.302	1.00	0.502	pCi/L	0.33	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	96.2		40 - 110
Y Carrier	90.1		40 - 110

QC Sample Results

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-133551-10 DU
Matrix: Water
Analysis Batch: 297652

Client Sample ID: AX01210 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	0.0267	U	0.2449	U	0.316	5.00	0.502	pCi/L	0.36	

Lab Sample ID: 400-133551-3DU
Matrix: Water
Analysis Batch: 297657


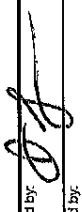
Client Sample ID: AX01203 MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.3356	U	0.3356	U	0.324	5.00	0.507	pCi/L		

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Chain of Custody Record

TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone (850) 474-1001 Fax (850) 478-2671

Client Information Client Contact: Ben Rothschild Phone: Sarah Copeland E-Mail: chryenne.whitire@testamericainc.com Lab P/N: Whitire, Chyenne R Carrier Tracking No(s):		COC No: 400-56525-24537-1 Page: Page 1 of 1 Job #: 400-133551			
Company: Alabama Power General Test Laboratory Address: 744 County Rd 87 GSC #8 City: Calera State, Zip: AL, 35040 Phone: 205-664-8121(Tel) Email: sgcopela@southemico.com Project Name: CCR S/S#: Gorgas Gypsum (S)		Analysis Requested Due Date Requested: TAT Requested (days): PO #: WC #: Project #: 40007143 SSOV#:			
Routine 0316_Raz226_9320_Raz226_Raz226_RFP6		400-133551 COC 			
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amelhor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:					
M - Hexane N - None O - AsNaO2 P - Na2CO3 Q - Na2SO3 R - Na2S2O8 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)					
Sample Identification					
Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (p=water, s=solid, o=organic)	Special Instructions/Note
AX01201	1/17/17	1245	G	Water	MMW-3
AX01202	1/17/17	1245	G	Water	MMW-3 Dup (Sample Duplicate)
AX01203	1/17/17	1403	G	Water	MMW-4
AX01204	1/17/17	1652	G	Water	MMW-8
AX01205	1/17/17	1700	G	Water	FB-1 (Field Blank)
AX01206	1/17/17	1715	G	Water	EB-1 (Equipment Blank)
AX01207	1/17/17	1144	G	Water	MMW-1L
AX01208	1/17/17	1243	G	Water	MMW-2L
AX01209	1/18/17	1042	G	Water	MMW-3L
AX01210	1/18/17	1138	G	Water	MMW-4L
Possible Hazard Identification <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					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: Sarah Copeland Date/Time: 2/7/2017, 1030 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact Δ Yes Δ No					
Received by:  Date/Time: 2-6-17 1400 Company: _____ Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks:					



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-133551-1
SDG Number: Gorgas Gypsum (5)

Login Number: 133551

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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.	True	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	Thermal preservation not required.
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	



Certification Summary

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

TestAmerica Job ID: 400-133551-1
 SDG: Gorgas Gypsum (5)

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40150	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-17 *
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17
New York	NELAP	2	11616	03-31-17 *

* Certification renewal pending - certification considered valid.

Certification Summary

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

TestAmerica Job ID: 400-133551-1
SDG: Gorgas Gypsum (5)

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
North Dakota	State Program	8	R207	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-18
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

* Certification renewal pending - 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

Analytical Report



Sample Group : WMWGORG_1082

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1082

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. The Sulfate result for AX06697 was incorrectly reported by Test America as Not Detected. The sample result was corrected and a new report issued.
4. All anions were outsourced to Test America, Pensacola for analysis. Listed below is the revised narrative provided by Test America for these samples.

**Job Narrative
400-135678-1
General Chemistry**

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 348061 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) precision 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: AX06697 MW-3 (400-135678-1), AX06700 MW-4 (400-135678-4), AX06703 MW-1 (400-135678-7) and AX06701 MW-4 DUP (400-135678-5). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The method blank associated with analytical batch 348055 contained Chloride less than one-half the reporting limit (RL). The sample results have been qualified and reported.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 348438 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 348613 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: AX06698 MW-8 (400-135678-2), AX06701 MW-4 DUP (400-135678-5), AX06703 MW-1 (400-135678-7), AX06704 MW-2 (400-135678-8), AX06705 MW-3 (400-135678-9) and AX06706 MW-4 (400-135678-10). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The method blank associated with analytical batch 348054 contained Sulfate less than one-half the reporting limit (RL). The sample results have been qualified and reported.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 349656 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted due to the presence of Sulfate which interferes with Sulfate: AX06700 MW-4 (400-135678-4[MS]) and AX06700 MW-4 (400-135678-4[MSD]). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 349498 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 method blank for analytical batch 349498 contained Sulfate above the method detection limit. This target analyte concentration was less than the reporting limit (RL) and orders of magnitude below the sample concentration; therefore, re-extraction and/or re-analysis of samples was not performed.



Metals ICP

Gorgas Gypsum

WMWGORG_1082

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>
AX06697	20170414_20170518	WMWGORG_1082
AX06698	20170414_20170518	WMWGORG_1082
AX06699	20170414_20170518	WMWGORG_1082
AX06700	20170414_20170518	WMWGORG_1082
AX06701	20170414_20170518	WMWGORG_1082
AX06702	20170414_20170518	WMWGORG_1082
AX06703	20170414F, 20170419B & 20170517B	WMWGORG_1082
AX06704	20170414F, 20170419B & 20170517B	WMWGORG_1082
AX06705	20170414F, 20170419B & 20170517B	WMWGORG_1082
AX06706	20170414F, 20170419B & 20170517B	WMWGORG_1082

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

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes, with the exception of Lithium in batch 20170414F. Lithium results for AX06703-06 were reported from batch 20170517B with passing criteria. An additional CCV was added between samples in all batches, except 20170517B, to monitor Lithium for possible matrix issues.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes. All runs had an additional blank rinse between each sample to monitor potential Lithium matrix issues.
- 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, with the exception of Lithium in batches 20170414F and 20170414 due to a greater than 10% error in the high calibration standard. Lithium was reported from batches 20170517B and 20170518 data packets with passing acceptance criteria. Calcium for sample AX06697 was over the calibration curve. Sample was re-prepared, analyzed and reported from 20170518 data packet.
- 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. There is no reported spike information for Calcium in batch 20170518 affecting sample AX06697 only. All spike and spike duplicate QC parameters met criteria for Calcium in batch 20170518.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for accuracy were met , except for:

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AX06703

The concentration of the matrix spike was less than 30 percent of the concentration in the sample causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- 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 2x dilution to compensate for any matrix effects. The following samples were run at a higher dilution due to the final result exceeding the high standard of the calibration curve.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AX06697	Calcium	100X
AX06698	Calcium	10X
AX06700	Calcium	10X
AX06701	Calcium	10X

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Case Narrative



AX06703	Calcium	10X
AX06704	Calcium	10X
AX06705	Calcium	10X
AX06706	Calcium	10X
AX06703 MS	Calcium	10X
AX06703 MSD	Calcium	10X

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



Metals ICPMS

Gorgas Gypsum

WMWGORG_1082

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>
AX06697	590415	WMWGORG_1082
AX06698	590415	WMWGORG_1082
AX06699	590415	WMWGORG_1082
AX06700	590415	WMWGORG_1082
AX06701	590415	WMWGORG_1082
AX06702	590415	WMWGORG_1082
AX06703	590415	WMWGORG_1082
AX06704	590415	WMWGORG_1082
AX06705	590415	WMWGORG_1082
AX06706*	590415	WMWGORG_1082

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_1082

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>
AX06697	590394	WMWGORG_1082
AX06698	590394	WMWGORG_1082
AX06699	590394	WMWGORG_1082
AX06700	590394	WMWGORG_1082
AX06701	590394	WMWGORG_1082
AX06702	590394	WMWGORG_1082
AX06703	590394	WMWGORG_1082
AX06704	590394	WMWGORG_1082
AX06705	590394	WMWGORG_1082
AX06706	590394	WMWGORG_1082

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_1082

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>
AX06697	590106	WMWGORG_1082
AX06698	590106	WMWGORG_1082
AX06699	590106	WMWGORG_1082
AX06700	590106	WMWGORG_1082
AX06701	590106	WMWGORG_1082
AX06702	590106	WMWGORG_1082
AX06703	590292	WMWGORG_1082
AX06704	590292	WMWGORG_1082
AX06705	590292	WMWGORG_1082
AX06706	590292	WMWGORG_1082

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 0.5 mg 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 2.5 mg and 200 mg residue with the exception of AX06699 and AX06702 which were <2.5mg.

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**

Corrected Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX06697

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	0.0124	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	J 0.00191	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7		2	0.02	0.1	3.11	mg/L
* Calcium, Total	HRG	5/20/2017	EPA 200.7		100	10	50	817	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	0.0726	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.533	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	SES	3/27/2017	SM 2540C		1		250	2690	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E		10	6.00	20	B 320	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C		1	0.032	0.10	0.39	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E		100	140	500	B 2800	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
 CORRECTED COPY: The previous Sulfate result provided by
 Test America, Pensacola was incorrect. SGC 1/10/18

Corrected Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX06697

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06697	Calcium, Total	mg/L	-0.0119	0.22				4.67	4.25 to 5.75		70 to 130		20
AX06702	Lithium, Total	mg/L	-0.0000315	0.022	0.20	0.201	0.195	0.197	0.17 to 0.23	101	70 to 130	3.10	20
AX06702	Boron, Total	mg/L	0.000966	0.044	1.0	1.00	0.982	0.993	0.85 to 1.15	100	70 to 130	1.82	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	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
 CORRECTED COPY: The previous Sulfate result provided by
 Test America, Pensacola was incorrect. SGC 1/10/18

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



Corrected Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX06697

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX06721	Solids, Dissolved	mg/L	5.00	25			3850	58.0	40 to 60	1.12	5

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
 CORRECTED COPY: The previous Sulfate result provided by
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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: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX06698

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	0.0305	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7		2	0.02	0.1	0.114	mg/L
* Calcium, Total	HRG	4/19/2017	EPA 200.7		10	1.00	5	298	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	J 0.00277	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.135	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	SES	3/27/2017	SM 2540C		1		125	2630	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E		1	0.60	2.00	B 5.7	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C		1	0.032	0.10	0.18	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E		50	70.0	250	B 1400	mg/L

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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, 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: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX06698

Sample	Analysis	Units	MB			MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit	Spike				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20	
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20	
AX06702	Lithium, Total	mg/L	-0.0000315	0.022	0.20	0.201	0.195	0.197	0.17 to 0.23	101	70 to 130	3.10	20	
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20	
AX06702	Boron, Total	mg/L	0.000966	0.044	1.0	1.00	0.982	0.993	0.85 to 1.15	100	70 to 130	1.82	20	
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20	
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	20	
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20	
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20	
AX06702	Calcium, Total	mg/L	-0.000601	0.22	5.	5.04	4.98	4.99	4.25 to 5.75	101	70 to 130	1.20	20	
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20	
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20	
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20	
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20	
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	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: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX06698

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06721	Solids, Dissolved	mg/L	5.00	25				3850	58.0	40 to 60			1.12	5

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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: WMWGORGFB
 Sample Date: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX06699

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7	2		0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	4/14/2017	EPA 200.7	2		0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7	2		0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	SES	3/27/2017	SM 2540C	1			25	U Not Detected	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E	1		0.60	2.00	J 1.2	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C	1		0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E	1		1.40	5.00	J 1.5	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: WMWGORGFB
 Sample Date: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX06699

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06702	Lithium, Total	mg/L	-0.0000315	0.022	0.20	0.201	0.195	0.197	0.17 to 0.23	101	70 to 130	3.10	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20
AX06702	Calcium, Total	mg/L	-0.000601	0.22	5.	5.04	4.98	4.99	4.25 to 5.75	101	70 to 130	1.20	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	20
AX06702	Boron, Total	mg/L	0.000966	0.044	1.0	1.00	0.982	0.993	0.85 to 1.15	100	70 to 130	1.82	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	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: 20-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX06699

Sample	Analysis	Units	MB	MB Limit	Spike	LFM	Sample Duplicate	LFB	LFB Limit	Rec	Rec Limit	Prec	Prec Limit
AX06721	Solids, Dissolved	mg/L	5.00	25			3850	58.0	40 to 60			1.12	5

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

Certificate Of Analysis Alabama Power



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX06700

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	0.0116	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	0.00521	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7	2		0.02	0.1	3.39	mg/L
* Calcium, Total	HRG	4/19/2017	EPA 200.7	10		1.00	5	94.7	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	0.00134	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	0.158	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7	2		0.01	0.05	0.258	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	J 0.00588	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	SES	3/27/2017	SM 2540C	1			50	990	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E	5		3.00	10	79	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C	1		0.032	0.10	0.54	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E	40		56.0	200	530	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: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX06700

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB	Rec		Prec	Limit	
			MB	Limit					Limit	Prec			
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06702	Lithium, Total	mg/L	-0.0000315	0.022	0.20	0.201	0.195	0.197	0.17 to 0.23	101	70 to 130	3.10	20
AX06702	Calcium, Total	mg/L	-0.000601	0.22	5.	5.04	4.98	4.99	4.25 to 5.75	101	70 to 130	1.20	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	20
AX06702	Boron, Total	mg/L	0.000966	0.044	1.0	1.00	0.982	0.993	0.85 to 1.15	100	70 to 130	1.82	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	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: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX06700

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06721	Solids, Dissolved	mg/L	5.00	25				3850	58.0	40 to 60			1.12	5

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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: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AX06701

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	0.0119	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	0.00511	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7	2		0.02	0.1	3.37	mg/L
* Calcium, Total	HRG	4/19/2017	EPA 200.7	10		1.00	5	94.7	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	0.00144	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	0.156	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7	2		0.01	0.05	0.266	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	J 0.00597	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	SES	3/27/2017	SM 2540C	1			50	984	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E	5		3.00	10	B 79	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C	1		0.032	0.10	0.53	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E	30		42.0	150	B 560	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: WMWGORG
 Sample Date: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AX06701

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06702	Lithium, Total	mg/L	-0.0000315	0.022	0.20	0.201	0.195	0.197	0.17 to 0.23	101	70 to 130	3.10	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20
AX06702	Calcium, Total	mg/L	-0.000601	0.22	5.	5.04	4.98	4.99	4.25 to 5.75	101	70 to 130	1.20	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	20
AX06702	Boron, Total	mg/L	0.000966	0.044	1.0	1.00	0.982	0.993	0.85 to 1.15	100	70 to 130	1.82	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	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
 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: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AX06701

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06721	Solids, Dissolved	mg/L	5.00	25				3850	58.0	40 to 60			1.12	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, 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: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX06702

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	4/14/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	SES	3/27/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E		1	0.60	2.00	J 1.4	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E		1	1.40	5.00	J 1.6	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: WMWGORGEB
 Sample Date: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX06702

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06702	Lithium, Total	mg/L	-0.0000315	0.022	0.20	0.201	0.195	0.197	0.17 to 0.23	101	70 to 130	3.10	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20
AX06702	Boron, Total	mg/L	0.000966	0.044	1.0	1.00	0.982	0.993	0.85 to 1.15	100	70 to 130	1.82	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	20
AX06702	Calcium, Total	mg/L	-0.000601	0.22	5.	5.04	4.98	4.99	4.25 to 5.75	101	70 to 130	1.20	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	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: WMWGORGEB
 Sample Date: 21-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX06702

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06721	Solids, Dissolved	mg/L	5.00	25				3850	58.0	40 to 60			1.12	5

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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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX06703

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	J 0.00938	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7	2		0.02	0.1	J 0.0224	mg/L
* Calcium, Total	HRG	4/14/2017	EPA 200.7	10		1.00	5	141	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	0.00190	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	0.0535	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7	2		0.01	0.05	J 0.0238	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	J 0.00220	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	3/29/2017	SM 2540C	1			125	2060	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E	1		0.60	2.00	B 3.7	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C	1		0.032	0.10	0.12	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E	50		70.0	250	B 1500	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
 Recovery for Calcium is out of spec.
 The spike amount was less than 30% of the sample amount.

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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX06703

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20
AX06703	Calcium, Total	mg/L	-0.000469	0.22	5.0	143	143	5.00	4.25 to 5.75	40.0	70 to 130	0.00	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06703	Boron, Total	mg/L	0.000255	0.044	1.00	1.03	1.03	0.982	0.85 to 1.15	101	70 to 130	0.0350	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	20
AX06703	Lithium, Total	mg/L	-0.000190	0.022	0.20	0.256	0.262	0.187	0.17 to 0.23	116	70 to 130	2.33	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	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
 Recovery for Calcium is out of spec.
 The spike amount was less than 30% of the sample amount.

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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX06703

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX06703	Solids, Dissolved	mg/L	0.00	25			2140	41.0	40 to 60	2.03	5

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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
 Recovery for Calcium is out of spec.
 The spike amount was less than 30% of the sample amount.

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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX06704

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	0.0132	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7		2	0.02	0.1	J 0.0243	mg/L
* Calcium, Total	HRG	4/14/2017	EPA 200.7		10	1.00	5	155	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	0.0328	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05	J 0.0464	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	3/29/2017	SM 2540C		1		100	1510	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E		1	0.60	2.00	3.4	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C		1	0.032	0.10	0.13	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E		60	84.0	300	B 900	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: WMWGORG
 Sample Date: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX06704

Sample	Analysis	Units	MB	MB			LFB			Rec			Prec
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06703	Calcium, Total	mg/L	-0.000469	0.22	5.0	143	143	5.00	4.25 to 5.75	40.0	70 to 130	0.00	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20
AX06703	Lithium, Total	mg/L	-0.000190	0.022	0.20	0.256	0.262	0.187	0.17 to 0.23	116	70 to 130	2.33	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	20
AX06703	Boron, Total	mg/L	0.000255	0.044	1.00	1.03	1.03	0.982	0.85 to 1.15	101	70 to 130	0.0350	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX06704

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06703	Solids, Dissolved	mg/L	0.00	25				2140	41.0	40 to 60			2.03	5

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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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX06705

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q	Results	Units
Metals, Cyanide, Total Phenols										
* Arsenic, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	J	0.00122	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	J	0.00991	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003		0.00686	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7		2	0.02	0.1	J	0.0344	mg/L
* Calcium, Total	HRG	4/14/2017	EPA 200.7		10	1.00	5		318	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001		0.00473	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8		5	0.00060	0.003	U	Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01		0.271	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	J	0.00945	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1		1	0.00025	0.0005	U	Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7		2	0.01	0.05		0.203	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01	U	Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8		5	0.0010	0.005	U	Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8		5	0.0020	0.01		0.0141	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8		5	0.00020	0.001	U	Not Detected	mg/L
General Characteristics										
* Solids, Dissolved	DLJ	3/29/2017	SM 2540C		1		125		4180	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E		1	0.60	2.00		2.0	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C		1	0.032	0.10		0.41	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E		100	140	500		3200	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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX06705

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046		96.7	70 to 130	0.822	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115		101	70 to 130	1.64	20
AX06703	Calcium, Total	mg/L	-0.000469	0.22	5.0	143	143	5.00	4.25 to 5.75		40.0	70 to 130	0.00	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115		93.9	70 to 130	1.06	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115		84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115		94.7	70 to 130	2.49	20
AX06703	Lithium, Total	mg/L	-0.000190	0.022	0.20	0.256	0.262	0.187	0.17 to 0.23		116	70 to 130	2.33	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115		92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115		102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115		102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115		100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115		103	70 to 130	1.13	20
AX06703	Boron, Total	mg/L	0.000255	0.044	1.00	1.03	1.03	0.982	0.85 to 1.15		101	70 to 130	0.0350	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115		90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115		100	70 to 130	1.52	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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX06705

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06703	Solids, Dissolved	mg/L	0.00	25				2140	41.0	40 to 60			2.03	5

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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
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 FAX (205) 257-1654

Certificate Of Analysis  **Alabama Power**



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX06706

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	0.0103	mg/L
* Beryllium, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	4/14/2017	EPA 200.7	2		0.02	0.1	J 0.0432	mg/L
* Calcium, Total	HRG	4/14/2017	EPA 200.7	10		1.00	5	292	mg/L
* Cadmium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	4/3/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	3/30/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/17/2017	EPA 200.7	2		0.01	0.05	J 0.0493	mg/L
* Molybdenum, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	4/3/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	4/3/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	4/3/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	DLJ	3/29/2017	SM 2540C	1			125	3980	mg/L
* Chloride, Total, by Test America	SGC	4/17/2017	SM 4500 Cl_E	1		0.60	2.00	J 1.5	mg/L
* Fluoride, Total, by Test America	SGC	4/17/2017	SM 4500 F_C	1		0.032	0.10	0.32	mg/L
* Sulfate, Total, by Test America	SGC	4/17/2017	SM 4500 SO4_E	100		140	500	2700	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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX06706

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX06706	Mercury, Total by CVAA	mg/L	0.000108	0.0005	0.004	0.00387	0.00390	0.00388	0.0034 to 0.0046	96.7	70 to 130	0.822	20
AX06706	Molybdenum, Total	mg/L	0.0000151	0.0044	0.10	0.101	0.103	0.101	0.085 to 0.115	101	70 to 130	1.64	20
AX06703	Calcium, Total	mg/L	-0.000469	0.22	5.0	143	143	5.00	4.25 to 5.75	40.0	70 to 130	0.00	20
AX06706	Cadmium, Total	mg/L	0.0000121	0.00066	0.10	0.0939	0.0949	0.0983	0.085 to 0.115	93.9	70 to 130	1.06	20
AX06706	Lead, Total	mg/L	0.0000164	0.0022	0.10	0.0840	0.0844	0.104	0.085 to 0.115	84.0	70 to 130	0.495	20
AX06706	Selenium, Total	mg/L	0.0000524	0.0044	0.10	0.0947	0.0971	0.0990	0.085 to 0.115	94.7	70 to 130	2.49	20
AX06703	Lithium, Total	mg/L	-0.000190	0.022	0.20	0.256	0.262	0.187	0.17 to 0.23	116	70 to 130	2.33	20
AX06706	Barium, Total	mg/L	0.000224	0.0044	0.10	0.103	0.105	0.0959	0.085 to 0.115	92.6	70 to 130	2.20	20
AX06706	Beryllium, Total	mg/L	0.0000280	0.00132	0.10	0.102	0.104	0.107	0.085 to 0.115	102	70 to 130	2.01	20
AX06706	Chromium, Total	mg/L	0.0000125	0.0044	0.10	0.102	0.103	0.102	0.085 to 0.115	102	70 to 130	1.30	20
AX06706	Cobalt, Total	mg/L	0.00000890	0.0044	0.10	0.100	0.102	0.0921	0.085 to 0.115	100	70 to 130	2.24	20
AX06706	Thallium, Total	mg/L	0.0000174	0.00044	0.10	0.103	0.104	0.100	0.085 to 0.115	103	70 to 130	1.13	20
AX06703	Boron, Total	mg/L	0.000255	0.044	1.00	1.03	1.03	0.982	0.85 to 1.15	101	70 to 130	0.0350	20
AX06706	Antimony, Total	mg/L	0.0000679	0.00132	0.10	0.0905	0.0918	0.0943	0.085 to 0.115	90.5	70 to 130	1.40	20
AX06706	Arsenic, Total	mg/L	0.0000183	0.0022	0.10	0.100	0.102	0.101	0.085 to 0.115	100	70 to 130	1.52	20

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Laboratory certification ID: E571114

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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: 22-Mar-17
 Customer ID:
 Delivery Date: 23-Mar-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX06706

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX06703	Solids, Dissolved	mg/L	0.00	25				2140	41.0	40 to 60			2.03	5

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

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

- Field Complete
- Lab Complete

Lab ETA 03/23/2017 08:30

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Site Representative	Che George	Requested By	Greg Dyer
Collector	Ben Rothschadl	Location	Gorgas Gypsum
Analysis Requested	Bottle 1 (500mL): Metals, Bottle 2 (250mL): Hg, Bottle 3 (500mL): TDS, Bottle 4 (250mL): Anions		
Comments	MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Benjamin Rothschadl as part of Gorgas Landfill sample event. Benjamin SmarTroll ID 4696-23441-1-1, Turbidity ID 3901-20010-2-2 All anions outsourced to Test America, Pensacola.		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-3	03/20/2017	14:20	4	Groundwater		AX06697
MW-8	03/20/2017	15:38	4	Groundwater		AX06698
FB-1	03/20/2017	16:05	4	Field Blank		AX06699
MW-4	03/21/2017	10:45	4	Groundwater		AX06700
MW-4 DUP	03/21/2017	10:45	4	Sample Duplicate		AX06701
EB-1	03/21/2017	11:15	4	Equipment Blank		AX06702
MW-1L*	03/22/2017	13:47	0	Groundwater		AX06703
MW-2L*	03/22/2017	12:35	0	Groundwater		AX06704
MW-3L*	03/22/2017	11:10	0	Groundwater		AX06705
MW-4L*	03/22/2017	09:22	0	Groundwater		AX06706

Relinquished By	Received By	Date/Time
Benjamin Rothschadl <small>Digitally signed by Benjamin Rothschadl DN: cn=Benjamin Rothschadl, o=Groundwater, ou=APCO Environmental Affairs, email=X2B7R0TH@southernco.com, c=US Date: 2017.03.23 08:09:44 -05'00'</small>	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o, ou, email=sgcopela@southernco.com, c=US Date: 2017.03.23 09:00:12 -05'00'</small>	03/23/2017 09:00

SmarTroll ID	4696-23441-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Cooler Temp	2.5 degrees C	
Thermometer ID	5408-27568-2-2	
pH Strip ID	5521-28268-20-12	

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: 400-135678-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (6)

Client Project/Site: CCR Plant Gorgas

Revision: 2

For:

Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

1/12/2018 9:17:39 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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results through

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Have a Question?



Visit us at:

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: 400-135678-1
SDG: Gorgas Gypsum (6)

Job ID: 400-135678-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-135678-1

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 348061 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) precision 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: AX06697 MW-3 (400-135678-1), AX06700 MW-4 (400-135678-4), AX06703 MW-1 (400-135678-7) and AX06701 MW-4 DUP (400-135678-5). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The method blank associated with analytical batch 348055 contained Chloride less than one-half the reporting limit (RL). The sample results have been qualified and reported.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 348438 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 348613 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: AX06698 MW-8 (400-135678-2), AX06701 MW-4 DUP (400-135678-5), AX06703 MW-1 (400-135678-7), AX06704 MW-2 (400-135678-8), AX06705 MW-3 (400-135678-9) and AX06706 MW-4 (400-135678-10). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The method blank associated with analytical batch 348054 contained Sulfate less than one-half the reporting limit (RL). The sample results have been qualified and reported.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 349656 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted due to the presence of Sulfate which interferes with Sulfate: AX06700 MW-4 (400-135678-4[MS]) and AX06700 MW-4 (400-135678-4[MSD]). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 349498 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 method blank for analytical batch 349498 contained Sulfate above the method detection limit. This target analyte concentration was less than the reporting limit (RL) and orders of magnitude below the sample concentration; therefore, re-extraction and/or re-analysis of samples was not performed.

Detection Summary

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

TestAmerica Job ID: 400-135678-1
SDG: Gorgas Gypsum (6)

Client Sample ID: AX06697 MW-3

Lab Sample ID: 400-135678-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	320	B	20	6.0	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.39		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2800	B	500	140	mg/L	100		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06698 MW-8

Lab Sample ID: 400-135678-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.7	B	2.0	0.60	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	B	250	70	mg/L	50		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06699 FB-1

Lab Sample ID: 400-135678-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.2	J B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.5	J B	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06700 MW-4

Lab Sample ID: 400-135678-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	79	F1	10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.54	F2	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	530	F1	200	56	mg/L	40		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06701 MW-4 DUP

Lab Sample ID: 400-135678-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	79	B	10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.53		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	560	B	150	42	mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06702 EB-1

Lab Sample ID: 400-135678-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.4	J B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.6	J B	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06703 MW-1L

Lab Sample ID: 400-135678-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.7	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1500	B	250	70	mg/L	50		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06704 MW-2L

Lab Sample ID: 400-135678-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	900	B	300	84	mg/L	60		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: 400-135678-1
SDG: Gorgas Gypsum (6)

Client Sample ID: AX06705 MW-3L

Lab Sample ID: 400-135678-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.41		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	3200		500	140	mg/L	100		SM 4500 SO4 E	Total/NA

Client Sample ID: AX06706 MW-4L

Lab Sample ID: 400-135678-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.5	J	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.32		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2700		500	140	mg/L	100		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: 400-135678-1
SDG: Gorgas Gypsum (6)

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



Sample Summary

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

TestAmerica Job ID: 400-135678-1
SDG: Gorgas Gypsum (6)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-135678-1	AX06697 MW-3	Water	03/20/17 14:20	03/27/17 08:34
400-135678-2	AX06698 MW-8	Water	03/20/17 15:38	03/27/17 08:34
400-135678-3	AX06699 FB-1	Water	03/20/17 16:05	03/27/17 08:34
400-135678-4	AX06700 MW-4	Water	03/21/17 10:45	03/27/17 08:34
400-135678-5	AX06701 MW-4 DUP	Water	03/21/17 10:45	03/27/17 08:34
400-135678-6	AX06702 EB-1	Water	03/21/17 11:15	03/27/17 08:34
400-135678-7	AX06703 MW-1L	Water	03/22/17 13:47	03/27/17 08:34
400-135678-8	AX06704 MW-2L	Water	03/22/17 12:35	03/27/17 08:34
400-135678-9	AX06705 MW-3L	Water	03/22/17 11:10	03/27/17 08:34
400-135678-10	AX06706 MW-4L	Water	03/22/17 09:22	03/27/17 08:34



Client Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06697 MW-3

Lab Sample ID: 400-135678-1

Date Collected: 03/20/17 14:20

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320	B	20	6.0	mg/L			04/01/17 08:59	10
Fluoride	0.39		0.10	0.032	mg/L			04/01/17 11:28	1
Sulfate	2800	B	500	140	mg/L			04/12/17 16:05	100

Client Sample ID: AX06698 MW-8

Lab Sample ID: 400-135678-2

Date Collected: 03/20/17 15:38

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.7	B	2.0	0.60	mg/L			04/01/17 08:26	1
Fluoride	0.18		0.10	0.032	mg/L			04/01/17 11:42	1
Sulfate	1400	B	250	70	mg/L			04/01/17 09:54	50

Client Sample ID: AX06699 FB-1

Lab Sample ID: 400-135678-3

Date Collected: 03/20/17 16:05

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.2	J B	2.0	0.60	mg/L			04/01/17 08:26	1
Fluoride	<0.032		0.10	0.032	mg/L			04/01/17 11:44	1
Sulfate	1.5	J B	5.0	1.4	mg/L			04/01/17 08:33	1

Client Sample ID: AX06700 MW-4

Lab Sample ID: 400-135678-4

Date Collected: 03/21/17 10:45

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79	F1	10	3.0	mg/L			04/05/17 16:31	5
Fluoride	0.54	F2	0.10	0.032	mg/L			04/01/17 10:34	1
Sulfate	530	F1	200	56	mg/L			04/13/17 11:10	40

Client Sample ID: AX06701 MW-4 DUP

Lab Sample ID: 400-135678-5

Date Collected: 03/21/17 10:45

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79	B	10	3.0	mg/L			04/01/17 11:05	5
Fluoride	0.53		0.10	0.032	mg/L			04/01/17 11:48	1
Sulfate	560	B	150	42	mg/L			04/01/17 10:16	30

Client Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06702 EB-1

Lab Sample ID: 400-135678-6

Date Collected: 03/21/17 11:15

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	J B	2.0	0.60	mg/L			04/01/17 09:42	1
Fluoride	<0.032		0.10	0.032	mg/L			04/01/17 11:50	1
Sulfate	1.6	J B	5.0	1.4	mg/L			04/01/17 09:51	1

Client Sample ID: AX06703 MW-1L

Lab Sample ID: 400-135678-7

Date Collected: 03/22/17 13:47

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7	B	2.0	0.60	mg/L			04/01/17 09:42	1
Fluoride	0.12		0.10	0.032	mg/L			04/01/17 11:52	1
Sulfate	1500	B	250	70	mg/L			04/01/17 10:16	50

Client Sample ID: AX06704 MW-2L

Lab Sample ID: 400-135678-8

Date Collected: 03/22/17 12:35

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.4		2.0	0.60	mg/L			04/05/17 08:39	1
Fluoride	0.13		0.10	0.032	mg/L			04/01/17 11:54	1
Sulfate	900	B	300	84	mg/L			04/01/17 10:16	60

Client Sample ID: AX06705 MW-3L

Lab Sample ID: 400-135678-9

Date Collected: 03/22/17 11:10

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.0		2.0	0.60	mg/L			04/05/17 08:39	1
Fluoride	0.41		0.10	0.032	mg/L			04/03/17 16:21	1
Sulfate	3200		500	140	mg/L			04/13/17 11:48	100

Client Sample ID: AX06706 MW-4L

Lab Sample ID: 400-135678-10

Date Collected: 03/22/17 09:22

Matrix: Water

Date Received: 03/27/17 08:34

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.5	J	2.0	0.60	mg/L			04/05/17 08:39	1
Fluoride	0.32		0.10	0.032	mg/L			04/03/17 16:23	1
Sulfate	2700		500	140	mg/L			04/13/17 11:51	100

Definitions/Glossary

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

TestAmerica Job ID: 400-135678-1
SDG: Gorgas Gypsum (6)

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.
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

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: 400-135678-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06697 MW-3
Date Collected: 03/20/17 14:20
Date Received: 03/27/17 08:34

Lab Sample ID: 400-135678-1
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		10	348055	04/01/17 08:59	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:28	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	349498	04/12/17 16:05	BJB	TAL PEN

Client Sample ID: AX06698 MW-8
Date Collected: 03/20/17 15:38
Date Received: 03/27/17 08:34

Lab Sample ID: 400-135678-2
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		1	348055	04/01/17 08:26	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:42	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		50	348054	04/01/17 09:54	BJB	TAL PEN

Client Sample ID: AX06699 FB-1
Date Collected: 03/20/17 16:05
Date Received: 03/27/17 08:34

Lab Sample ID: 400-135678-3
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	348055	04/01/17 08:26	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:44	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	348054	04/01/17 08:33	BJB	TAL PEN

Client Sample ID: AX06700 MW-4
Date Collected: 03/21/17 10:45
Date Received: 03/27/17 08:34

Lab Sample ID: 400-135678-4
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		5	348613	04/05/17 16:31	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 10:34	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		40	349600	04/13/17 11:10	BJB	TAL PEN

Client Sample ID: AX06701 MW-4 DUP
Date Collected: 03/21/17 10:45
Date Received: 03/27/17 08:34

Lab Sample ID: 400-135678-5
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	348055	04/01/17 11:05	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:48	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	348054	04/01/17 10:16	BJB	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-135678-1
SDG: Gorgas Gypsum (6)

Client Sample ID: AX06702 EB-1

Lab Sample ID: 400-135678-6

Date Collected: 03/21/17 11:15

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	348055	04/01/17 09:42	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:50	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	348054	04/01/17 09:51	BJB	TAL PEN

Client Sample ID: AX06703 MW-1L

Lab Sample ID: 400-135678-7

Date Collected: 03/22/17 13:47

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	348055	04/01/17 09:42	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:52	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		50	348054	04/01/17 10:16	BJB	TAL PEN

Client Sample ID: AX06704 MW-2L

Lab Sample ID: 400-135678-8

Date Collected: 03/22/17 12:35

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	348485	04/05/17 08:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348061	04/01/17 11:54	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	348054	04/01/17 10:16	BJB	TAL PEN

Client Sample ID: AX06705 MW-3L

Lab Sample ID: 400-135678-9

Date Collected: 03/22/17 11:10

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	348485	04/05/17 08:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348269	04/03/17 16:21	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	349600	04/13/17 11:48	BJB	TAL PEN

Client Sample ID: AX06706 MW-4L

Lab Sample ID: 400-135678-10

Date Collected: 03/22/17 09:22

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	348485	04/05/17 08:39	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	348269	04/03/17 16:23	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	349600	04/13/17 11:51	BJB	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: 400-135678-1
 SDG: Gorgas Gypsum (6)

General Chemistry

Analysis Batch: 348054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-2	AX06698 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-135678-3	AX06699 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-135678-5	AX06701 MW-4 DUP	Total/NA	Water	SM 4500 SO4 E	
400-135678-6	AX06702 EB-1	Total/NA	Water	SM 4500 SO4 E	
400-135678-7	AX06703 MW-1L	Total/NA	Water	SM 4500 SO4 E	
400-135678-8	AX06704 MW-2L	Total/NA	Water	SM 4500 SO4 E	
MB 400-348054/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-348054/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-348054/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-135676-A-7 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-135676-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 348055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-1	AX06697 MW-3	Total/NA	Water	SM 4500 Cl- E	
400-135678-2	AX06698 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-135678-3	AX06699 FB-1	Total/NA	Water	SM 4500 Cl- E	
400-135678-5	AX06701 MW-4 DUP	Total/NA	Water	SM 4500 Cl- E	
400-135678-6	AX06702 EB-1	Total/NA	Water	SM 4500 Cl- E	
400-135678-7	AX06703 MW-1L	Total/NA	Water	SM 4500 Cl- E	
MB 400-348055/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-348055/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-348055/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-135676-A-7 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-135676-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 348061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-1	AX06697 MW-3	Total/NA	Water	SM 4500 F C	
400-135678-2	AX06698 MW-8	Total/NA	Water	SM 4500 F C	
400-135678-3	AX06699 FB-1	Total/NA	Water	SM 4500 F C	
400-135678-4	AX06700 MW-4	Total/NA	Water	SM 4500 F C	
400-135678-5	AX06701 MW-4 DUP	Total/NA	Water	SM 4500 F C	
400-135678-6	AX06702 EB-1	Total/NA	Water	SM 4500 F C	
400-135678-7	AX06703 MW-1L	Total/NA	Water	SM 4500 F C	
400-135678-8	AX06704 MW-2L	Total/NA	Water	SM 4500 F C	
MB 400-348061/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-348061/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-135678-4 MS	AX06700 MW-4	Total/NA	Water	SM 4500 F C	
400-135678-4 MSD	AX06700 MW-4	Total/NA	Water	SM 4500 F C	

Analysis Batch: 348269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-9	AX06705 MW-3L	Total/NA	Water	SM 4500 F C	
400-135678-10	AX06706 MW-4L	Total/NA	Water	SM 4500 F C	
MB 400-348269/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-348269/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-135678-A-14 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-135678-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-135676-A-3 DU	Duplicate	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

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

TestAmerica Job ID: 400-135678-1
SDG: Gorgas Gypsum (6)

General Chemistry (Continued)

Analysis Batch: 348485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-8	AX06704 MW-2L	Total/NA	Water	SM 4500 Cl- E	
400-135678-9	AX06705 MW-3L	Total/NA	Water	SM 4500 Cl- E	
400-135678-10	AX06706 MW-4L	Total/NA	Water	SM 4500 Cl- E	
MB 400-348485/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-348485/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-348485/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-135675-A-10 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-135675-A-10 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 348613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-4	AX06700 MW-4	Total/NA	Water	SM 4500 Cl- E	
MB 400-348613/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-348613/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-348613/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-135678-4 MS	AX06700 MW-4	Total/NA	Water	SM 4500 Cl- E	
400-135678-4 MSD	AX06700 MW-4	Total/NA	Water	SM 4500 Cl- E	
400-135678-A-14 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-135678-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 348793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-348793/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-348793/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-348793/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-135900-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-135900-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 349498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-1	AX06697 MW-3	Total/NA	Water	SM 4500 SO4 E	
MB 400-349498/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-349498/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-349498/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-135676-A-13 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-135676-A-13 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 349600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135678-4	AX06700 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-135678-9	AX06705 MW-3L	Total/NA	Water	SM 4500 SO4 E	
400-135678-10	AX06706 MW-4L	Total/NA	Water	SM 4500 SO4 E	
MB 400-349600/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-349600/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-349600/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-135678-4 MS	AX06700 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-135678-4 MSD	AX06700 MW-4	Total/NA	Water	SM 4500 SO4 E	

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-348055/6
Matrix: Water
Analysis Batch: 348055

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.05	J	2.0	0.60	mg/L			04/01/17 07:42	1

Lab Sample ID: LCS 400-348055/7
Matrix: Water
Analysis Batch: 348055

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	30.8		mg/L		103	90 - 110

Lab Sample ID: MRL 400-348055/3
Matrix: Water
Analysis Batch: 348055

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	2.72		mg/L		136	50 - 150

Lab Sample ID: 400-135676-A-7 MS
Matrix: Water
Analysis Batch: 348055

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	4.2	B	10.0	15.8		mg/L		115	73 - 120

Lab Sample ID: 400-135676-A-7 MSD
Matrix: Water
Analysis Batch: 348055

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	4.2	B	10.0	15.5		mg/L		112	73 - 120	2	8

Lab Sample ID: MB 400-348485/6
Matrix: Water
Analysis Batch: 348485

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			04/05/17 08:14	1

Lab Sample ID: LCS 400-348485/7
Matrix: Water
Analysis Batch: 348485

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 400-348485/3
Matrix: Water
Analysis Batch: 348485

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	1.17	J	mg/L		59	50 - 150

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Lab Sample ID: 400-135675-A-10 MS
Matrix: Water
Analysis Batch: 348485

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	49		10.0	57.9	4	mg/L		88	73 - 120

Lab Sample ID: 400-135675-A-10 MSD
Matrix: Water
Analysis Batch: 348485

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	49		10.0	58.0	4	mg/L		89	73 - 120	0	8

Lab Sample ID: MB 400-348613/6
Matrix: Water
Analysis Batch: 348613

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			04/05/17 15:28	1

Lab Sample ID: LCS 400-348613/7
Matrix: Water
Analysis Batch: 348613

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	31.6		mg/L		105	90 - 110

Lab Sample ID: MRL 400-348613/3
Matrix: Water
Analysis Batch: 348613

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	1.52	J	mg/L		76	50 - 150

Lab Sample ID: 400-135678-4 MS
Matrix: Water
Analysis Batch: 348613

Client Sample ID: AX06700 MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	79	F1	50.0	87.5	F1	mg/L		17	73 - 120

Lab Sample ID: 400-135678-4 MSD
Matrix: Water
Analysis Batch: 348613

Client Sample ID: AX06700 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	79	F1	50.0	87.0	F1	mg/L		16	73 - 120	1	8

Lab Sample ID: 400-135678-A-14 MS
Matrix: Water
Analysis Batch: 348613

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	1.5	J	10.0	12.5		mg/L		110	73 - 120

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 400-135678-A-14 MSD
Matrix: Water
Analysis Batch: 348613

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	1.5	J	10.0	12.5		mg/L		109	73 - 120	0	8

Lab Sample ID: MB 400-348793/6
Matrix: Water
Analysis Batch: 348793

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			04/06/17 17:03	1

Lab Sample ID: LCS 400-348793/7
Matrix: Water
Analysis Batch: 348793

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	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-348793/3
Matrix: Water
Analysis Batch: 348793

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	1.48	J	mg/L		74	50 - 150

Lab Sample ID: 400-135900-A-4 MS
Matrix: Water
Analysis Batch: 348793

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	48		10.0	56.1	4	mg/L		78	73 - 120

Lab Sample ID: 400-135900-A-4 MSD
Matrix: Water
Analysis Batch: 348793

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	48		10.0	55.6	4	mg/L		74	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-348061/3
Matrix: Water
Analysis Batch: 348061

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			04/01/17 10:25	1

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 400-348061/4
Matrix: Water
Analysis Batch: 348061

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	4.22		mg/L		106	90 - 110

Lab Sample ID: 400-135678-4 MS
Matrix: Water
Analysis Batch: 348061

Client Sample ID: AX06700 MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.54	F2	1.00	1.53		mg/L		99	75 - 125

Lab Sample ID: 400-135678-4 MSD
Matrix: Water
Analysis Batch: 348061

Client Sample ID: AX06700 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
Fluoride	0.54	F2	1.00	1.44	F2	mg/L		90	75 - 125	6	4

Lab Sample ID: MB 400-348269/3
Matrix: Water
Analysis Batch: 348269

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			04/03/17 15:28	1

Lab Sample ID: LCS 400-348269/4
Matrix: Water
Analysis Batch: 348269

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	4.05		mg/L		101	90 - 110

Lab Sample ID: 400-135678-A-14 MS
Matrix: Water
Analysis Batch: 348269

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	0.32		1.00	1.24		mg/L		92	75 - 125

Lab Sample ID: 400-135678-A-14 MSD
Matrix: Water
Analysis Batch: 348269

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	0.32		1.00	1.26		mg/L		94	75 - 125	2	4

Lab Sample ID: 400-135676-A-3 DU
Matrix: Water
Analysis Batch: 348269

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

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-348054/6
Matrix: Water
Analysis Batch: 348054

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.52	J	5.0	1.4	mg/L			04/01/17 07:44	1

Lab Sample ID: LCS 400-348054/7
Matrix: Water
Analysis Batch: 348054

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	15.8		mg/L		105	90 - 110

Lab Sample ID: MRL 400-348054/3
Matrix: Water
Analysis Batch: 348054

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	6.00		mg/L		120	50 - 150

Lab Sample ID: 400-135676-A-7 MS
Matrix: Water
Analysis Batch: 348054

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
Sulfate	15	B	10.0	26.1		mg/L		108	77 - 128

Lab Sample ID: 400-135676-A-7 MSD
Matrix: Water
Analysis Batch: 348054

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
Sulfate	15	B	10.0	26.2		mg/L		110	77 - 128	0	5

Lab Sample ID: MB 400-349498/6
Matrix: Water
Analysis Batch: 349498

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.40	J	5.0	1.4	mg/L			04/12/17 14:21	1

Lab Sample ID: LCS 400-349498/7
Matrix: Water
Analysis Batch: 349498

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	14.3		mg/L		95	90 - 110

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
 SDG: Gorgas Gypsum (6)

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-349498/3
Matrix: Water
Analysis Batch: 349498

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	5.08		mg/L		102	50 - 150

Lab Sample ID: 400-135676-A-13 MS
Matrix: Water
Analysis Batch: 349498

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
Sulfate	9.1	B ^ F1	10.0	8.91	F1	mg/L		-2	77 - 128

Lab Sample ID: 400-135676-A-13 MSD
Matrix: Water
Analysis Batch: 349498

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
Sulfate	9.1	B ^ F1	10.0	9.04	F1	mg/L		-0.3	77 - 128	1	5

Lab Sample ID: MB 400-349600/6
Matrix: Water
Analysis Batch: 349600

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			04/13/17 10:13	1

Lab Sample ID: LCS 400-349600/7
Matrix: Water
Analysis Batch: 349600

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	14.7		mg/L		98	90 - 110

Lab Sample ID: MRL 400-349600/3
Matrix: Water
Analysis Batch: 349600

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	4.89	J	mg/L		98	50 - 150

Lab Sample ID: 400-135678-4 MS
Matrix: Water
Analysis Batch: 349600

Client Sample ID: AX06700 MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	530	F1	400	518	F1	mg/L		-3	77 - 128

Lab Sample ID: 400-135678-4 MSD
Matrix: Water
Analysis Batch: 349600

Client Sample ID: AX06700 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	530	F1	400	531	F1	mg/L		0.2	77 - 128	3	5

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-135678-1
SDG: Gorgas Gypsum (6)


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TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Ben Rofschadl Phone: Sarah Copeland Company: Alabama Power General Test Laboratory Address: 744 County Rd 87 GSC #8 City: Callera State, Zip: AL, 35040 Phone: 205-664-6121 (Tel) Email: scopela@southernco.com Project Name: CCR Site: Gorgas Gypsum (6)		Lab P/N: Whitnir, Cheyenne R E-Mail: cheyenne.whitnir@testamericainc.com Carrier Tracking No(s): Job #: 400-135678-1								
Due Date Requested: TAT Requested (days): PO #: W/O #: Project #: 40007143 SSO# #:		Analysis Requested								
Sample Identification		Special Instructions/Note:								
AX06697	3/20/17	1420	Water	SM 4500 F	X	SM 4500 C	X	SM 4500 S	X	MW-3
AX06698	3/20/17	1538	Water		X		X			MW-3
AX06699	3/20/17	1605	Water		X		X			FB-1 (Field Blank)
AX06700	3/21/17	1045	Water		X		X			MW-4
AX06701	3/21/17	1045	Water		X		X			MW-4 Dup (Sample Duplicate)
AX06702	3/21/17	1115	Water		X		X			EB-1 (Equipment Blank)
AX06703	3/22/17	1347	Water		X		X			MW-1L
AX06704	3/22/17	1235	Water		X		X			MW-2L
AX06705	3/22/17	1110	Water		X		X			MW-3L
AX06706	3/22/17	0922	Water		X		X			MW-4L



400-135678 COC

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: 03/24/2017; 1400
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: 19.1°C SP-20

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client
 Dispose By Lab
 Archive For _____ Months
 Special Instructions/QC Requirements:



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-135678-1
SDG Number: Gorgas Gypsum (6)

Login Number: 135678

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	19.1°C IR-2
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: 400-135678-1
 SDG: Gorgas Gypsum (6)

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	12-31-18
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	01-31-18
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.

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-135680-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (6)

Client Project/Site: CCR Plant Gorgas

For:

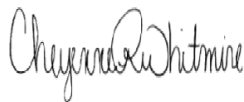
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

4/28/2017 11:19:56 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

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: 400-135680-1
SDG: Gorgas Gypsum (6)

Job ID: 400-135680-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-135680-1

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-300958. The following samples were reduced to 750 ml due to limited volume: AX06707 MW-8 (400-135680-1), AX06708 MW-3 (400-135680-2), AX06708 MW-3 (400-135680-2[DU]), AX06709 FB-1 (400-135680-3), AX06710 MW-4 (400-135680-4), AX06711 MW-4 DUP (400-135680-5), AX06712 EB-1 (400-135680-6), AX06713 MW-1L (400-135680-7), AX06714 MW-2L (400-135680-8), AX06715 MW-3L (400-135680-9) and AX06716 MW-4L (400-135680-10).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-301018. The following samples were reduced to 750 ml due to limited volume: AX06707 MW-8 (400-135680-1), AX06708 MW-3 (400-135680-2), AX06708 MW-3 (400-135680-2[DU]), AX06709 FB-1 (400-135680-3), AX06710 MW-4 (400-135680-4), AX06711 MW-4 DUP (400-135680-5), AX06712 EB-1 (400-135680-6), AX06713 MW-1L (400-135680-7), AX06714 MW-2L (400-135680-8), AX06715 MW-3L (400-135680-9) and AX06716 MW-4L (400-135680-10).

Method Summary

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

TestAmerica Job ID: 400-135680-1
SDG: Gorgas Gypsum (6)

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: 400-135680-1
SDG: Gorgas Gypsum (6)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-135680-1	AX06707 MW-8	Water	03/20/17 15:38	03/27/17 08:34
400-135680-2	AX06708 MW-3	Water	03/20/17 14:20	03/27/17 08:34
400-135680-3	AX06709 FB-1	Water	03/20/17 16:05	03/27/17 08:34
400-135680-4	AX06710 MW-4	Water	03/21/17 10:45	03/27/17 08:34
400-135680-5	AX06711 MW-4 DUP	Water	03/21/17 10:45	03/27/17 08:34
400-135680-6	AX06712 EB-1	Water	03/21/17 11:15	03/27/17 08:34
400-135680-7	AX06713 MW-1L	Water	03/22/17 13:47	03/27/17 08:34
400-135680-8	AX06714 MW-2L	Water	03/22/17 12:35	03/27/17 08:34
400-135680-9	AX06715 MW-3L	Water	03/22/17 11:10	03/27/17 08:34
400-135680-10	AX06716 MW-4L	Water	03/22/17 09:22	03/27/17 08:34

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06707 MW-8

Lab Sample ID: 400-135680-1

Date Collected: 03/20/17 15:38

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.162	U	0.123	0.124	1.00	0.178	pCi/L	04/03/17 07:09	04/24/17 19:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110					04/03/17 07:09	04/24/17 19:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.471	U	0.408	0.410	1.00	0.655	pCi/L	03/31/17 11:16	04/13/17 11:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.0		40 - 110					03/31/17 11:16	04/13/17 11:25	1
Y Carrier	89.0		40 - 110					03/31/17 11:16	04/13/17 11:25	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	U	0.426	0.428	5.00	0.655	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06708 MW-3

Lab Sample ID: 400-135680-2

Date Collected: 03/20/17 14:20

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0421	U	0.106	0.106	1.00	0.193	pCi/L	04/03/17 07:09	04/24/17 19:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					04/03/17 07:09	04/24/17 19:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0579	U	0.396	0.396	1.00	0.704	pCi/L	03/31/17 11:16	04/13/17 11:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					03/31/17 11:16	04/13/17 11:25	1
Y Carrier	88.2		40 - 110					03/31/17 11:16	04/13/17 11:25	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	-0.0158	U	0.409	0.410	5.00	0.704	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06709 FB-1

Lab Sample ID: 400-135680-3

Date Collected: 03/20/17 16:05

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0185	U	0.0811	0.0811	1.00	0.177	pCi/L	04/03/17 07:09	04/24/17 19:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					04/03/17 07:09	04/24/17 19:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.185	U	0.294	0.294	1.00	0.557	pCi/L	03/31/17 11:16	04/13/17 11:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.2		40 - 110					03/31/17 11:16	04/13/17 11:25	1
Y Carrier	90.1		40 - 110					03/31/17 11:16	04/13/17 11:25	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	-0.204	U	0.305	0.305	5.00	0.557	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06710 MW-4

Lab Sample ID: 400-135680-4

Date Collected: 03/21/17 10:45

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.157	U	0.122	0.123	1.00	0.178	pCi/L	04/03/17 07:09	04/24/17 19:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					04/03/17 07:09	04/24/17 19:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.448	U	0.380	0.382	1.00	0.609	pCi/L	03/31/17 11:16	04/13/17 11:25	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					03/31/17 11:16	04/13/17 11:25	1
Y Carrier	90.1		40 - 110					03/31/17 11:16	04/13/17 11:25	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	0.604	U	0.399	0.401	5.00	0.609	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06711 MW-4 DUP

Lab Sample ID: 400-135680-5

Date Collected: 03/21/17 10:45

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.237		0.129	0.131	1.00	0.162	pCi/L	04/03/17 07:09	04/24/17 19:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110					04/03/17 07:09	04/24/17 19:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.830		0.385	0.393	1.00	0.562	pCi/L	03/31/17 11:16	04/13/17 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110					03/31/17 11:16	04/13/17 11:26	1
Y Carrier	89.7		40 - 110					03/31/17 11:16	04/13/17 11:26	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	1.07		0.406	0.414	5.00	0.562	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06712 EB-1

Lab Sample ID: 400-135680-6

Date Collected: 03/21/17 11:15

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0723	U	0.0931	0.0933	1.00	0.155	pCi/L	04/03/17 07:10	04/24/17 19:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					04/03/17 07:10	04/24/17 19:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0265	U	0.330	0.330	1.00	0.583	pCi/L	03/31/17 11:16	04/13/17 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110					03/31/17 11:16	04/13/17 11:26	1
Y Carrier	87.1		40 - 110					03/31/17 11:16	04/13/17 11:26	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	0.0988	U	0.343	0.343	5.00	0.583	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06713 MW-1L

Lab Sample ID: 400-135680-7

Date Collected: 03/22/17 13:47

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0928	U	0.105	0.106	1.00	0.170	pCi/L	04/03/17 07:10	04/24/17 19:57	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					04/03/17 07:10	04/24/17 19:57	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.251	U	0.354	0.355	1.00	0.592	pCi/L	03/31/17 11:16	04/13/17 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110					03/31/17 11:16	04/13/17 11:26	1
Y Carrier	90.8		40 - 110					03/31/17 11:16	04/13/17 11:26	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	0.344	U	0.370	0.371	5.00	0.592	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06714 MW-2L

Lab Sample ID: 400-135680-8

Date Collected: 03/22/17 12:35

Matrix: Water

Date Received: 03/27/17 08:34

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	0.105	0.105	1.00	0.155	pCi/L	04/03/17 07:10	04/24/17 19:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					04/03/17 07:10	04/24/17 19:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.159	U	0.454	0.455	1.00	0.779	pCi/L	03/31/17 11:16	04/13/17 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		40 - 110					03/31/17 11:16	04/13/17 11:26	1
Y Carrier	82.6		40 - 110					03/31/17 11:16	04/13/17 11:26	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	0.279	U	0.466	0.467	5.00	0.779	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06715 MW-3L

Lab Sample ID: 400-135680-9

Date Collected: 03/22/17 11:10

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.155		0.105	0.106	1.00	0.138	pCi/L	04/03/17 07:10	04/24/17 19:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					04/03/17 07:10	04/24/17 19:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.772		0.349	0.356	1.00	0.499	pCi/L	03/31/17 11:16	04/13/17 11:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					03/31/17 11:16	04/13/17 11:30	1
Y Carrier	90.8		40 - 110					03/31/17 11:16	04/13/17 11:30	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	0.927		0.364	0.371	5.00	0.499	pCi/L		04/26/17 11:17	1

Client Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06716 MW-4L

Lab Sample ID: 400-135680-10

Date Collected: 03/22/17 09:22

Matrix: Water

Date Received: 03/27/17 08:34

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0151	U	0.0651	0.0652	1.00	0.151	pCi/L	04/03/17 07:10	04/24/17 19:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					04/03/17 07:10	04/24/17 19:58	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.147	U	0.276	0.276	1.00	0.471	pCi/L	03/31/17 11:16	04/13/17 11:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					03/31/17 11:16	04/13/17 11:30	1
Y Carrier	92.0		40 - 110					03/31/17 11:16	04/13/17 11:30	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	0.132	U	0.283	0.284	5.00	0.471	pCi/L		04/26/17 11:17	1

Definitions/Glossary

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

TestAmerica Job ID: 400-135680-1
SDG: Gorgas Gypsum (6)

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-135680-1
SDG: Gorgas Gypsum (6)

Client Sample ID: AX06707 MW-8

Date Collected: 03/20/17 15:38

Date Received: 03/27/17 08:34

Lab Sample ID: 400-135680-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:09	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:25	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06708 MW-3

Date Collected: 03/20/17 14:20

Date Received: 03/27/17 08:34

Lab Sample ID: 400-135680-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:09	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:25	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06709 FB-1

Date Collected: 03/20/17 16:05

Date Received: 03/27/17 08:34

Lab Sample ID: 400-135680-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:09	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:57	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:25	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06710 MW-4

Date Collected: 03/21/17 10:45

Date Received: 03/27/17 08:34

Lab Sample ID: 400-135680-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:09	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:57	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:25	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

TestAmerica Pensacola

Lab Chronicle

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Client Sample ID: AX06711 MW-4 DUP

Lab Sample ID: 400-135680-5

Date Collected: 03/21/17 10:45

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:09	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:57	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:26	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06712 EB-1

Lab Sample ID: 400-135680-6

Date Collected: 03/21/17 11:15

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:10	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:57	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:26	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06713 MW-1L

Lab Sample ID: 400-135680-7

Date Collected: 03/22/17 13:47

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:10	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:57	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:26	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06714 MW-2L

Lab Sample ID: 400-135680-8

Date Collected: 03/22/17 12:35

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:10	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:58	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303348	04/13/17 11:26	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-135680-1
SDG: Gorgas Gypsum (6)

Client Sample ID: AX06715 MW-3L

Lab Sample ID: 400-135680-9

Date Collected: 03/22/17 11:10

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:10	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:58	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303352	04/13/17 11:30	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	RTM	TAL SL

Client Sample ID: AX06716 MW-4L

Lab Sample ID: 400-135680-10

Date Collected: 03/22/17 09:22

Matrix: Water

Date Received: 03/27/17 08:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			301018	04/03/17 07:10	MBC	TAL SL
Total/NA	Analysis	9315		1	305125	04/24/17 19:58	RTM	TAL SL
Total/NA	Prep	PrecSep_0			300958	03/31/17 11:16	LDE	TAL SL
Total/NA	Analysis	9320		1	303352	04/13/17 11:30	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	305685	04/26/17 11:17	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: 400-135680-1
SDG: Gorgas Gypsum (6)

Rad

Prep Batch: 300958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135680-1	AX06707 MW-8	Total/NA	Water	PrecSep_0	
400-135680-2	AX06708 MW-3	Total/NA	Water	PrecSep_0	
400-135680-3	AX06709 FB-1	Total/NA	Water	PrecSep_0	
400-135680-4	AX06710 MW-4	Total/NA	Water	PrecSep_0	
400-135680-5	AX06711 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-135680-6	AX06712 EB-1	Total/NA	Water	PrecSep_0	
400-135680-7	AX06713 MW-1L	Total/NA	Water	PrecSep_0	
400-135680-8	AX06714 MW-2L	Total/NA	Water	PrecSep_0	
400-135680-9	AX06715 MW-3L	Total/NA	Water	PrecSep_0	
400-135680-10	AX06716 MW-4L	Total/NA	Water	PrecSep_0	
MB 160-300958/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-300958/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-135680-2 DU	AX06708 MW-3	Total/NA	Water	PrecSep_0	
400-135680-8 DU	AX06714 MW-2L	Total/NA	Water	PrecSep_0	

Prep Batch: 301018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-135680-1	AX06707 MW-8	Total/NA	Water	PrecSep-21	
400-135680-2	AX06708 MW-3	Total/NA	Water	PrecSep-21	
400-135680-3	AX06709 FB-1	Total/NA	Water	PrecSep-21	
400-135680-4	AX06710 MW-4	Total/NA	Water	PrecSep-21	
400-135680-5	AX06711 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-135680-6	AX06712 EB-1	Total/NA	Water	PrecSep-21	
400-135680-7	AX06713 MW-1L	Total/NA	Water	PrecSep-21	
400-135680-8	AX06714 MW-2L	Total/NA	Water	PrecSep-21	
400-135680-9	AX06715 MW-3L	Total/NA	Water	PrecSep-21	
400-135680-10	AX06716 MW-4L	Total/NA	Water	PrecSep-21	
MB 160-301018/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-301018/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-135680-2 DU	AX06708 MW-3	Total/NA	Water	PrecSep-21	
400-135680-8 DU	AX06714 MW-2L	Total/NA	Water	PrecSep-21	

QC Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-301018/1-A
Matrix: Water
Analysis Batch: 305125

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 301018

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04768	U	0.106	0.106	1.00	0.190	pCi/L	04/03/17 07:09	04/24/17 19:55	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					04/03/17 07:09	04/24/17 19:55	1

Lab Sample ID: LCS 160-301018/2-A
Matrix: Water
Analysis Batch: 305125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301018

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.2	17.37		1.79	1.00	0.159	pCi/L	115	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	91.4		40 - 110						

Lab Sample ID: 400-135680-2 DU
Matrix: Water
Analysis Batch: 305125

Client Sample ID: AX06708 MW-3
Prep Type: Total/NA
Prep Batch: 301018

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.0421	U	0.03061	U	0.0850	1.00	0.160	pCi/L	0.06	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	93.5		40 - 110							

Lab Sample ID: 400-135680-8 DU
Matrix: Water
Analysis Batch: 305125

Client Sample ID: AX06714 MW-2L
Prep Type: Total/NA
Prep Batch: 301018

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.120	U	0.07774	U	0.0987	1.00	0.163	pCi/L	0.21	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	81.4		40 - 110							

QC Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-300958/1-A
Matrix: Water
Analysis Batch: 303348

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300958

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2886	U	0.422	0.423	1.00	0.705	pCi/L	03/31/17 11:16	04/13/17 11:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.0		40 - 110					03/31/17 11:16	04/13/17 11:24	1
Y Carrier	84.9		40 - 110					03/31/17 11:16	04/13/17 11:24	1

Lab Sample ID: LCS 160-300958/2-A
Matrix: Water
Analysis Batch: 303348

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300958

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	18.1	19.73		2.14	1.00	0.588	pCi/L	109	56 - 140
Carrier	%Yield	Qualifier	Limits						
Ba Carrier	91.4		40 - 110						
Y Carrier	89.0		40 - 110						

Lab Sample ID: 400-135680-2 DU
Matrix: Water
Analysis Batch: 303348

Client Sample ID: AX06708 MW-3
Prep Type: Total/NA
Prep Batch: 300958

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	-0.0579	U	0.6028		0.360	1.00	0.543	pCi/L	0.87	1
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	93.5		40 - 110							
Y Carrier	90.5		40 - 110							

Lab Sample ID: 400-135680-8 DU
Matrix: Water
Analysis Batch: 303352

Client Sample ID: AX06714 MW-2L
Prep Type: Total/NA
Prep Batch: 300958

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.159	U	0.0000	U	0.351	1.00	0.628	pCi/L	0.20	1
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	81.4		40 - 110							
Y Carrier	86.7		40 - 110							

QC Sample Results

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

TestAmerica Job ID: 400-135680-1
 SDG: Gorgas Gypsum (6)

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-135680-2 DU
 Matrix: Water
 Analysis Batch: 305685


Client Sample ID: AX06708 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	-0.0158	U	0.6334		0.370	5.00	0.543	pCi/L	0.83	

Lab Sample ID: 400-135680-8 DU
 Matrix: Water
 Analysis Batch: 305685

Client Sample ID: AX06714 MW-2L
 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	0.279	U	0.07774	U	0.365	5.00	0.628	pCi/L	0.24	

Client Information			Sampler: Ben Rothschild Phone: Sarah Copeland Lab P/N: Whitnire, Cheyenne R E-Mail: cheyenne.whitnire@testamericainc.com Carrier Tracking No(s):			COC No: 400-56525-24537.1 Page: Page 1 fo 1 Job #: 400-135680-1		
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: sgcopela@southernco.com Project Name: CCR Site: Gorgas Gypsum (6)			Analysis Requested  400-135680 COC			Preservation Codes: A- HCL B- NaOH C- Zn Acetate D- Nitric Acid E- NaHSO4 F- MeOH G- Amchlor H- Ascorbic Acid I- Ice J- DI Water K- EDTA L- EDA Other: M- Hexane N- None O- AsNaO2 P- Na2OAS Q- Na2SO3 R- Na2S2O3 S- H2SO4 T- TSP Dodecahydrate U- Acetone V- MCAA W- ph 4-5 Z- other (specify)		
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewoil, B=leachate, AS=Asp)	Special Instructions/Note:		
AX06707		3/20/17	1538	G	Water	X		MW-5
AX06708		3/20/17	1420	G	Water	Y		MW-3
AX06709		3/20/17	1605	G	Water	X		FB-1 (Field Blank)
AX06710		3/21/17	1045	G	Water	X		MW-4
AX06711		3/21/17	1045	G	Water	X		MW-4 Dup (Sample Duplicate)
AX06712		3/21/17	1115	G	Water	X		EB-1 (Equipment Blank)
AX06713		3/22/17	1347	G	Water	X		MW-1L
AX06714		3/22/17	1235	G	Water	X		MW-2L
AX06715		3/22/17	1110	G	Water	X		MW-3L
AX06716		3/22/17	0922	G	Water	X		MW-4L
Possible Hazard Identification <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 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		
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:		
Empty Kit Relinquished by:						Method of Shipment:		
Relinquished by: Sarah Copeland						Date/Time: 03/24/2017, 1430		
Relinquished by:						Date/Time:		
Relinquished by:						Date/Time:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No						Cooler Temperature(s) °C and Other Remarks:		



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-135680-1
SDG Number: Gorgas Gypsum (6)

Login Number: 135680

List Number: 1

Creator: Siddoway, Benjamin

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.	N/A	Thermal preservation not required.
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 <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: 400-135680-1
 SDG: Gorgas Gypsum (6)

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	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	05-06-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

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	06-30-17 *
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-17 *
Florida	NELAP	4	E87689	06-30-17 *
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17 *
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17 *
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: 400-135680-1
SDG: Gorgas Gypsum (6)

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	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-28-18
South Carolina	State Program	4	85002001	06-30-17
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17 *
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

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



Chain of Custody
Groundwater
 APC General Testing Laboratory
 General Service Complex Building 8

Field Complete
 Lab Complete

Lab ETA 03/23/2017 08:30

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer		
	Site Representative		Che George	Requested By	Greg Dyer
	Collector		Ben Rothschadl		Location
Analysis Requested	Bottle 1 (1L): Radiological				
Comments	Radium Duplicate collected at MW-3. Ra does not require temperature preservation. SGC MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Benjamin Rothschadl as part of Gorgas Landfill sample event. Benjamin SmarTroll ID 4696-23441-1-1, Turbidity ID 3901-20010-2-2				

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-8R	03/20/2017	15:38	1	Groundwater		AX06707
MW-3R	03/20/2017	14:20	3	Groundwater		AX06708
FB-1R	03/20/2017	16:05	1	Field Blank		AX06709
MW-4R	03/21/2017	10:45	1	Groundwater		AX06710
MW-4R DUP	03/21/2017	10:45	1	Sample Duplicate		AX06711
EB-1R	03/21/2017	11:15	1	Equipment Blank		AX06712
MW-1L*R	03/22/2017	13:47	0	Groundwater		AX06713
MW-2L*R	03/22/2017	12:35	0	Groundwater		AX06714
MW-3L*R	03/22/2017	11:10	0	Groundwater		AX06715
MW-4L*R	03/22/2017	09:22	0	Groundwater		AX06716

Relinquished By	Received By	Date/Time
Benjamin Rothschadl <small>Digitally signed by Benjamin Rothschadl DN: cn=Benjamin Rothschadl, o=Groundwater, ou=APCO Environmental Affairs, email=X28TR0TH@southernco.com, c=US Date: 2017.03.23 08:26:34 -05'00'</small>	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o, ou, email=sgcopela@southernco.com, c=US Date: 2017.03.23 09:01:07 -05'00'</small>	03/23/2017 09:01

SmarTroll ID	4696-23441-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	
Cooler Temp	NA	
Thermometer ID	NA	
pH Strip ID	5521-28268-20-12	

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

 Alabama Power



Sample Group : WMWGORG_1090

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1090

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 anions were outsourced to Test America, Pensacola. Listed below is the narrative provided by Test America.

Job Narrative
400-136862-1
General Chemistry

Method(s) SM 4500 F C: The sample duplicate precision for the following sample associated with batch 351469 are outside control limits. The data are considered valid because the absolute difference is less than the RL.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AX09127 MW-4 (400-136862-1), AX09128 MW-4 DUP (400-136862-2) and AX09129 MW-3 (400-136862-3). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 351289 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision 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: AX09131 MW-8 (400-136862-5), AX09132 MW-4L (400-136862-6), AX09133 MW-3L (400-136862-7), AX09134 MW-2L (400-136862-8) and AX09135 MW-1L (400-136862-9). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 351368 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.



Metals ICP

Gorgas Gypsum

WMWGORG_1090

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>
AX09127	20170518B & 20170519	WMWGORG_1090
AX09128	20170518B & 20170519	WMWGORG_1090
AX09129	20170518B & 20170519	WMWGORG_1090
AX09130	20170518B & 20170519	WMWGORG_1090
AX09131	20170518B & 20170519	WMWGORG_1090
AX09132	20170518B & 20170519	WMWGORG_1090
AX09133	20170518B & 20170519	WMWGORG_1090
AX09134	20170518B & 20170519	WMWGORG_1090
AX09135	20170518B & 20170519	WMWGORG_1090
AX09136	20170518B & 20170519	WMWGORG_1090

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

General Quality Control Procedures:

- Prior to sample analysis, an initial calibration verification (ICV) was analyzed and all criteria were met.
- Following the ICV, an initial calibration blank (ICB) was analyzed and was below the limit of quantitation for all requested analytes.
- All continued calibration verification (CCV) were within the acceptance criteria for the requested analytes.
- All continued calibration blanks (CCB) were below the limit of quantitation for the requested analytes. An additional blank rinse was run between each sample to monitor potential Li matrix issues.
- 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 dilution to compensate for any matrix effects. The following samples were run at a dilution due to final result exceeding the high standard of the calibration curve.

<u>Sample ID</u>	<u>Analyte</u>	<u>Dilution Factor</u>
AX09127	Calcium	x10
AX09128	Calcium	x10
AX09129	Calcium	x100
AX09131	Calcium	x10
AX09132	Calcium	x10
AX09133	Calcium	x10
AX09134	Calcium	x10
AX09135	Calcium	x10

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



Metals ICPMS

Gorgas Gypsum

WMWGORG_1090

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>
AX09127	592297	WMWGORG_1090
AX09128	592297	WMWGORG_1090
AX09129	592297	WMWGORG_1090
AX09130	592297	WMWGORG_1090
AX09131	592297	WMWGORG_1090
AX09132	592297	WMWGORG_1090
AX09133	592297	WMWGORG_1090
AX09134	592297	WMWGORG_1090
AX09135	592297	WMWGORG_1090
AX09136	592297	WMWGORG_1090

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_1090

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>
AX09127	592570	WMWGORG_1090
AX09128	592570	WMWGORG_1090
AX09129	592570	WMWGORG_1090
AX09130	592570	WMWGORG_1090
AX09131	592570	WMWGORG_1090
AX09132	592570	WMWGORG_1090
AX09133	592570	WMWGORG_1090
AX09134	592570	WMWGORG_1090
AX09135	592570	WMWGORG_1090
AX09136	592570	WMWGORG_1090

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_1090

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>
AX09127	592329	WMWGORG_1090
AX09128	592329	WMWGORG_1090
AX09129	592329	WMWGORG_1090
AX09130	592329	WMWGORG_1090
AX09131	592329	WMWGORG_1090
AX09132	592329	WMWGORG_1090
AX09133	592329	WMWGORG_1090
AX09134	592329	WMWGORG_1090
AX09135	592329	WMWGORG_1090
AX09136	592329	WMWGORG_1090

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 0.5 mg 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 2.5 mg and 200 mg residue with the exception of samples AX09130 and AX09136 which were less than 2.5mg.

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-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX09127

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0112	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	0.00580	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	3.46	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	97.9	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	0.00122	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.159	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.274	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00579	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		100	884	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		5	3.00	10	85	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.54	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		30	42.0	150	530	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX09127

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115	108	70 to 130	4.62	20	
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115	83.3	70 to 130	2.67	20	
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046	95.6	70 to 130	0.328	20	
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115	94.7	70 to 130	3.60	20	
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75	100	70 to 130	0.710	20	
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23	93.1	70 to 130	1.95	20	
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115	90.3	70 to 130	0.871	20	
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115	89.5	70 to 130	2.26	20	
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115	93.1	70 to 130	3.05	20	
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115	90.7	70 to 130	1.61	20	
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115	91.9	70 to 130	1.62	20	
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15	96.6	70 to 130	2.06	20	
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115	89.7	70 to 130	2.42	20	
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115	86.1	70 to 130	2.08	20	
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115	99.6	70 to 130	2.91	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX09127

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	
								Duplicate	LFB	Limit	Rec	Limit	Prec
AX09134	Solids, Dissolved	mg/L	7.00	25				1560	51.0	40 to 60			0.510
													5

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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-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AX09128

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0107	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	0.00515	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	3.42	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	105	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	0.00127	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.157	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.267	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00546	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		100	748	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		5	3.00	10	86	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.54	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		30	42.0	150	540	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AX09128

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115		108	70 to 130	4.62	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115		83.3	70 to 130	2.67	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046		95.6	70 to 130	0.328	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115		90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115		89.5	70 to 130	2.26	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115		94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75		100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23		93.1	70 to 130	1.95	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115		86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115		99.6	70 to 130	2.91	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15		96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115		89.7	70 to 130	2.42	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115		93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115		90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115		91.9	70 to 130	1.62	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4 Dup

Laboratory ID Number: AX09128

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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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-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX09129

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	J 0.00405	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0149	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	0.00655	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	4.51	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		100	10.0	50	476	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.294	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.470	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00521	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		125	4780	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		10	6.00	20	340	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.57	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		70	98.0	350	2400	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX09129

Sample	Analysis	Units	MB	MB			LFB			Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115	108	70 to 130	4.62	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115	83.3	70 to 130	2.67	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046	95.6	70 to 130	0.328	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115	90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115	89.5	70 to 130	2.26	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15	96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115	89.7	70 to 130	2.42	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115	94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75	100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23	93.1	70 to 130	1.95	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115	86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115	99.6	70 to 130	2.91	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115	93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115	90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115	91.9	70 to 130	1.62	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, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX09129

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec
				Limit				Duplicate	LFB	Limit	Prec
AX09134	Solids, Dissolved	mg/L	7.00	25				1560	51.0	40 to 60	0.510

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX09130

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	U <0.60	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		1	1.40	5.00	U <1.4	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX09130

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit	
			MB	Limit					Limit	Rec	Limit	Prec			
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115		108	70 to 130		4.62	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046		95.6	70 to 130		0.328	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115		83.3	70 to 130		2.67	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115		90.3	70 to 130		0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115		89.5	70 to 130		2.26	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115		86.1	70 to 130		2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115		99.6	70 to 130		2.91	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115		94.7	70 to 130		3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75		100	70 to 130		0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23		93.1	70 to 130		1.95	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115		93.1	70 to 130		3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115		90.7	70 to 130		1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115		91.9	70 to 130		1.62	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15		96.6	70 to 130		2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115		89.7	70 to 130		2.42	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 17-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX09130

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX09131

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0276	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	0.108	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	317	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.139	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		125	2700	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	4.7	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.17	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		40	56.0	200	1300	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX09131

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115		108	70 to 130	4.62	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115		83.3	70 to 130	2.67	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046		95.6	70 to 130	0.328	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115		90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115		89.5	70 to 130	2.26	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115		93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115		90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115		91.9	70 to 130	1.62	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15		96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115		89.7	70 to 130	2.42	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115		94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75		100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23		93.1	70 to 130	1.95	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115		86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115		99.6	70 to 130	2.91	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX09131

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	
				Limit				Duplicate	LFB	Limit	Rec	Limit	Limit
AX09134	Solids, Dissolved	mg/L	7.00	25				1560	51.0	40 to 60			0.510 5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX09132

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0107	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	J 0.0409	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	302	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	J 0.0494	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		125	3880	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	J 1.6	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.32	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		70	98.0	350	2400	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX09132

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115	108	70 to 130	4.62	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115	83.3	70 to 130	2.67	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046	95.6	70 to 130	0.328	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115	90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115	89.5	70 to 130	2.26	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115	86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115	99.6	70 to 130	2.91	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15	96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115	89.7	70 to 130	2.42	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115	94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75	100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23	93.1	70 to 130	1.95	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115	93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115	90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115	91.9	70 to 130	1.62	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, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX09132

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX09133

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00976	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	U 0.0224	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	296	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	0.00117	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00324	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0105	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	0.0764	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0158	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		125	4440	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	2.2	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.29	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		80	110	400	2500	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX09133

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115	108	70 to 130	4.62	20	
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115	83.3	70 to 130	2.67	20	
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046	95.6	70 to 130	0.328	20	
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115	94.7	70 to 130	3.60	20	
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75	100	70 to 130	0.710	20	
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23	93.1	70 to 130	1.95	20	
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115	90.3	70 to 130	0.871	20	
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115	89.5	70 to 130	2.26	20	
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115	86.1	70 to 130	2.08	20	
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115	99.6	70 to 130	2.91	20	
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115	93.1	70 to 130	3.05	20	
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115	90.7	70 to 130	1.61	20	
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115	91.9	70 to 130	1.62	20	
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15	96.6	70 to 130	2.06	20	
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115	89.7	70 to 130	2.42	20	

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX09133

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX09134

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0120	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	J 0.0206	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	156	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0242	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	J 0.0446	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		100	1580	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	2.6	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.16	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		30	42.0	150	870	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX09134

Sample	Analysis	Units	MB	MB			LFB			Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115	108	70 to 130	4.62	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046	95.6	70 to 130	0.328	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115	83.3	70 to 130	2.67	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115	90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115	89.5	70 to 130	2.26	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115	86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115	99.6	70 to 130	2.91	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15	96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115	89.7	70 to 130	2.42	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115	94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75	100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23	93.1	70 to 130	1.95	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115	93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115	90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115	91.9	70 to 130	1.62	20

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX09134

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX09135

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00964	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		10	1	5	149	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	0.00159	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	0.0442	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	J 0.0242	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	J 0.00270	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		125	2140	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	2.4	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	0.12	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		50	70.0	250	1300	mg/L

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Laboratory certification ID: E571114

Issued By: State of Florida, Department of Health

Expiration: June 30, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX09135

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec Limit	
			MB	Limit					Limit	Rec	Limit	Prec		
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115		108	70 to 130	4.62	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046		95.6	70 to 130	0.328	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115		83.3	70 to 130	2.67	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115		94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75		100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23		93.1	70 to 130	1.95	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115		90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115		89.5	70 to 130	2.26	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115		93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115		90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115		91.9	70 to 130	1.62	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15		96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115		89.7	70 to 130	2.42	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115		86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115		99.6	70 to 130	2.91	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, 2017

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: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX09135

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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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: WMWGORGEB
 Sample Date: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX09136

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Beryllium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	5/18/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	5/18/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	DLJ	4/21/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	4/26/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	5/18/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	DLJ	4/21/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	DLJ	4/21/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	DLJ	4/21/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	4/21/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	SGC	5/8/2017	SM 4500 Cl_E		1	0.60	2.00	U <0.60	mg/L
* Fluoride, Total, by Test America	SGC	5/8/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	SGC	5/8/2017	SM 4500 SO4_E		1	1.40	5.00	J 2.9	mg/L

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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

Batch QC Summary



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGE
 Sample Date: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX09136

Sample	Analysis	Units	MB	MB			LFB			Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	
AX09136	Beryllium, Total	mg/L	-0.0000213	0.00132	0.10	0.108	0.103	0.104	0.085 to 0.115	108	70 to 130	4.62	20
AX09136	Antimony, Total	mg/L	0.0000520	0.00132	0.10	0.0833	0.0856	0.0894	0.085 to 0.115	83.3	70 to 130	2.67	20
AX09136	Mercury, Total by CVAA	mg/L	0.0000223	0.0005	0.004	0.00382	0.00381	0.00382	0.0034 to 0.0046	95.6	70 to 130	0.328	20
AX09136	Barium, Total	mg/L	0.00000213	0.0044	0.10	0.0903	0.0911	0.0948	0.085 to 0.115	90.3	70 to 130	0.871	20
AX09136	Thallium, Total	mg/L	-0.00000136	0.00044	0.10	0.0895	0.0915	0.0971	0.085 to 0.115	89.5	70 to 130	2.26	20
AX09136	Cadmium, Total	mg/L	0.00000122	0.00044	0.10	0.0861	0.0879	0.0902	0.085 to 0.115	86.1	70 to 130	2.08	20
AX09136	Cobalt, Total	mg/L	0.00000131	0.0044	0.10	0.0996	0.103	0.0999	0.085 to 0.115	99.6	70 to 130	2.91	20
AX09136	Arsenic, Total	mg/L	0.0000109	0.0022	0.10	0.0947	0.0981	0.0984	0.085 to 0.115	94.7	70 to 130	3.60	20
AX09136	Calcium, Total	mg/L	-0.00836	0.22	5.00	5.00	4.96	4.89	4.25 to 5.75	100	70 to 130	0.710	20
AX09136	Lithium, Total	mg/L	-0.00000137	0.022	0.20	0.186	0.183	0.190	0.17 to 0.23	93.1	70 to 130	1.95	20
AX09136	Boron, Total	mg/L	-0.00118	0.044	1.00	0.966	0.947	0.972	0.85 to 1.15	96.6	70 to 130	2.06	20
AX09136	Lead, Total	mg/L	0.00000333	0.0022	0.10	0.0897	0.0919	0.0993	0.085 to 0.115	89.7	70 to 130	2.42	20
AX09136	Chromium, Total	mg/L	0.0000172	0.0044	0.10	0.0931	0.0960	0.0931	0.085 to 0.115	93.1	70 to 130	3.05	20
AX09136	Molybdenum, Total	mg/L	0.00000528	0.0044	0.10	0.0907	0.0922	0.0917	0.085 to 0.115	90.7	70 to 130	1.61	20
AX09136	Selenium, Total	mg/L	0.0000361	0.0044	0.10	0.0919	0.0934	0.0983	0.085 to 0.115	91.9	70 to 130	1.62	20

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Expiration: June 30, 2017

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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

Batch QC Summary



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGEB
 Sample Date: 18-Apr-17
 Customer ID:
 Delivery Date: 19-Apr-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX09136

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX09134	Solids, Dissolved	mg/L	7.00	25			1560	51.0	40 to 60	0.510	5

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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, 2017

Comments: Test America Pensacola NELAP ID: E81010

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

- Field Complete
- Lab Complete

Lab ETA 04/19/2017 08:30

Requested Complete Date	Routine
Site Representative	Che George
Collector	Ben Rothschild

Results To	Dustin Brooks, Greg Dyer
Requested By	Greg Dyer
Location	Gorgas Gypsum

Analysis Requested	Bottle 1 (500mL): Metals, Bottle 2 (250mL): Hg, Bottle 3 (500mL): TDS, Bottle 4 (250mL): Anions
Comments	MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Benjamin Rothschild located at Gorgas Landfill sample site. Benjamin Rothschild SmarTroll ID 4696-23441-1-1, Turbidity ID 3901-20010-2-2 All anions outsourced to Test America

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-4	04/17/2017	13:43	4	Groundwater		AX09127
MW-4 DUP	04/17/2017	13:43	4	Sample Duplicate		AX09128
MW-3	04/17/2017	15:00	4	Groundwater		AX09129
FB-1	04/17/2017	15:30	4	Field Blank		AX09130
MW-8	04/18/2017	09:21	4	Groundwater		AX09131
MW-4L*	04/18/2017	10:40	4	Groundwater		AX09132
MW-3L*	04/18/2017	12:09	4	Groundwater		AX09133
MW-2L*	04/18/2017	13:33	4	Groundwater		AX09134
MW-1L*	04/18/2017	14:33	4	Groundwater		AX09135
EB-1	04/18/2017	15:05	4	Equipment Blank		AX09136

Relinquished By	Received By	Date/Time
<i>Ben Rothschild</i>	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o.ou, email=sgcopela@southerncco.com, c=US Date: 2017.04.19 07:53:46 -0500</small>	04/19/2017 07:53

SmarTroll ID	4696-23441-1-1
Turbidity ID	3901-20010-2-2

All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>	
Cooler Temp	0.1 degrees C
Thermometer ID	5408-27568-2-2
pH Strip ID	5521-28268-20-12

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: 400-136862-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (7)

Client Project/Site: CCR Plant Gorgas

Revision: 1

For:


Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

5/5/2017 4:08:44 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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results through

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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: 400-136862-1
SDG: Gorgas Gypsum (7)

Job ID: 400-136862-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-136862-1

General Chemistry

Method(s) SM 4500 F C: The sample duplicate precision for the following sample associated with batch 351469 are outside control limits. The data are considered valid because the absolute difference is less than the RL.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AX09127 MW-4 (400-136862-1), AX09128 MW-4 DUP (400-136862-2) and AX09129 MW-3 (400-136862-3). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 351289 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision 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: AX09131 MW-8 (400-136862-5), AX09132 MW-4L (400-136862-6), AX09133 MW-3L (400-136862-7), AX09134 MW-2L (400-136862-8) and AX09135 MW-1L (400-136862-9). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 351368 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 Summary

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

TestAmerica Job ID: 400-136862-1
SDG: Gorgas Gypsum (7)

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



Sample Summary

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

TestAmerica Job ID: 400-136862-1
SDG: Gorgas Gypsum (7)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-136862-1	AX09127 MW-4	Water	04/17/17 13:43	04/20/17 09:43
400-136862-2	AX09128 MW-4 DUP	Water	04/17/17 13:43	04/20/17 09:43
400-136862-3	AX09129 MW-3	Water	04/17/17 15:00	04/20/17 09:43
400-136862-4	AX09130 FB-1	Water	04/17/17 15:30	04/20/17 09:43
400-136862-5	AX09131 MW-8	Water	04/18/17 09:21	04/20/17 09:43
400-136862-6	AX09132 MW-4L	Water	04/18/17 10:40	04/20/17 09:43
400-136862-7	AX09133 MW-3L	Water	04/18/17 12:09	04/20/17 09:43
400-136862-8	AX09134 MW-2L	Water	04/18/17 13:33	04/20/17 09:43
400-136862-9	AX09135 MW-1L	Water	04/18/17 14:33	04/20/17 09:43
400-136862-10	AX09136 EB-1	Water	04/18/17 15:05	04/20/17 09:43

Client Sample Results

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

TestAmerica Job ID: 400-136862-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09127 MW-4

Lab Sample ID: 400-136862-1

Date Collected: 04/17/17 13:43

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85		10	3.0	mg/L			04/25/17 15:59	5
Fluoride	0.54		0.10	0.032	mg/L			04/26/17 16:49	1
Sulfate	530		150	42	mg/L			04/25/17 15:52	30

Client Sample ID: AX09128 MW-4 DUP

Lab Sample ID: 400-136862-2

Date Collected: 04/17/17 13:43

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	86		10	3.0	mg/L			04/25/17 15:59	5
Fluoride	0.54		0.10	0.032	mg/L			04/26/17 18:05	1
Sulfate	540		150	42	mg/L			04/25/17 15:52	30

Client Sample ID: AX09129 MW-3

Lab Sample ID: 400-136862-3

Date Collected: 04/17/17 15:00

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	340		20	6.0	mg/L			04/25/17 16:22	10
Fluoride	0.57		0.10	0.032	mg/L			04/26/17 16:58	1
Sulfate	2400		350	98	mg/L			04/25/17 16:32	70

Client Sample ID: AX09130 FB-1

Lab Sample ID: 400-136862-4

Date Collected: 04/17/17 15:30

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			04/25/17 15:03	1
Fluoride	<0.032		0.10	0.032	mg/L			04/29/17 11:40	1
Sulfate	<1.4		5.0	1.4	mg/L			04/26/17 09:21	1

Client Sample ID: AX09131 MW-8

Lab Sample ID: 400-136862-5

Date Collected: 04/18/17 09:21

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.7		2.0	0.60	mg/L			05/04/17 10:22	1
Fluoride	0.17		0.10	0.032	mg/L			04/29/17 11:42	1
Sulfate	1300		200	56	mg/L			04/26/17 09:51	40

Client Sample Results

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

TestAmerica Job ID: 400-136862-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09132 MW-4L

Lab Sample ID: 400-136862-6

Date Collected: 04/18/17 10:40

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.6	J	2.0	0.60	mg/L			05/04/17 10:22	1
Fluoride	0.32		0.10	0.032	mg/L			04/29/17 11:45	1
Sulfate	2400		350	98	mg/L			04/26/17 10:21	70

Client Sample ID: AX09133 MW-3L

Lab Sample ID: 400-136862-7

Date Collected: 04/18/17 12:09

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.2		2.0	0.60	mg/L			05/04/17 10:22	1
Fluoride	0.29		0.10	0.032	mg/L			04/29/17 11:47	1
Sulfate	2500		400	110	mg/L			04/26/17 10:40	80

Client Sample ID: AX09134 MW-2L

Lab Sample ID: 400-136862-8

Date Collected: 04/18/17 13:33

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.6		2.0	0.60	mg/L			05/04/17 10:23	1
Fluoride	0.16		0.10	0.032	mg/L			04/29/17 11:49	1
Sulfate	870		150	42	mg/L			04/26/17 09:51	30

Client Sample ID: AX09135 MW-1L

Lab Sample ID: 400-136862-9

Date Collected: 04/18/17 14:33

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.4		2.0	0.60	mg/L			05/04/17 10:23	1
Fluoride	0.12		0.10	0.032	mg/L			04/29/17 11:51	1
Sulfate	1300		250	70	mg/L			04/26/17 10:21	50

Client Sample ID: AX09136 EB-1

Lab Sample ID: 400-136862-10

Date Collected: 04/18/17 15:05

Matrix: Water

Date Received: 04/20/17 09:43

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			05/04/17 10:23	1
Fluoride	<0.032		0.10	0.032	mg/L			04/29/17 11:33	1
Sulfate	2.9	J F1	5.0	1.4	mg/L			04/26/17 09:21	1

Definitions/Glossary

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

TestAmerica Job ID: 400-136862-1
SDG: Gorgas Gypsum (7)

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F3	Duplicate RPD exceeds the control limit

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 400-136862-1
SDG: Gorgas Gypsum (7)

Client Sample ID: AX09127 MW-4

Date Collected: 04/17/17 13:43

Date Received: 04/20/17 09:43

Lab Sample ID: 400-136862-1

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	351289	04/25/17 15:59	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351469	04/26/17 16:49	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	351301	04/25/17 15:52	BJB	TAL PEN

Client Sample ID: AX09128 MW-4 DUP

Date Collected: 04/17/17 13:43

Date Received: 04/20/17 09:43

Lab Sample ID: 400-136862-2

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		5	351289	04/25/17 15:59	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351469	04/26/17 18:05	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	351301	04/25/17 15:52	BJB	TAL PEN

Client Sample ID: AX09129 MW-3

Date Collected: 04/17/17 15:00

Date Received: 04/20/17 09:43

Lab Sample ID: 400-136862-3

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	351289	04/25/17 16:22	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351469	04/26/17 16:58	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		70	351301	04/25/17 16:32	BJB	TAL PEN

Client Sample ID: AX09130 FB-1

Date Collected: 04/17/17 15:30

Date Received: 04/20/17 09:43

Lab Sample ID: 400-136862-4

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	351289	04/25/17 15:03	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:40	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	351368	04/26/17 09:21	BJB	TAL PEN

Client Sample ID: AX09131 MW-8

Date Collected: 04/18/17 09:21

Date Received: 04/20/17 09:43

Lab Sample ID: 400-136862-5

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	352379	05/04/17 10:22	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:42	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		40	351368	04/26/17 09:51	BJB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

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

TestAmerica Job ID: 400-136862-1
SDG: Gorgas Gypsum (7)

Client Sample ID: AX09132 MW-4L

Lab Sample ID: 400-136862-6

Date Collected: 04/18/17 10:40

Matrix: Water

Date Received: 04/20/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	352379	05/04/17 10:22	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:45	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		70	351368	04/26/17 10:21	BJB	TAL PEN

Client Sample ID: AX09133 MW-3L

Lab Sample ID: 400-136862-7

Date Collected: 04/18/17 12:09

Matrix: Water

Date Received: 04/20/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	352379	05/04/17 10:22	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:47	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		80	351368	04/26/17 10:40	BJB	TAL PEN

Client Sample ID: AX09134 MW-2L

Lab Sample ID: 400-136862-8

Date Collected: 04/18/17 13:33

Matrix: Water

Date Received: 04/20/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	352379	05/04/17 10:23	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:49	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	351368	04/26/17 09:51	BJB	TAL PEN

Client Sample ID: AX09135 MW-1L

Lab Sample ID: 400-136862-9

Date Collected: 04/18/17 14:33

Matrix: Water

Date Received: 04/20/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	352379	05/04/17 10:23	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:51	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		50	351368	04/26/17 10:21	BJB	TAL PEN

Client Sample ID: AX09136 EB-1

Lab Sample ID: 400-136862-10

Date Collected: 04/18/17 15:05

Matrix: Water

Date Received: 04/20/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	352379	05/04/17 10:23	BJB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	351844	04/29/17 11:33	CAC	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	351368	04/26/17 09:21	BJB	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: 400-136862-1
 SDG: Gorgas Gypsum (7)

General Chemistry

Analysis Batch: 351289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-1	AX09127 MW-4	Total/NA	Water	SM 4500 Cl- E	
400-136862-2	AX09128 MW-4 DUP	Total/NA	Water	SM 4500 Cl- E	
400-136862-3	AX09129 MW-3	Total/NA	Water	SM 4500 Cl- E	
400-136862-4	AX09130 FB-1	Total/NA	Water	SM 4500 Cl- E	
MB 400-351289/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-351289/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-351289/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-136642-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-136642-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 351301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-1	AX09127 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-136862-2	AX09128 MW-4 DUP	Total/NA	Water	SM 4500 SO4 E	
400-136862-3	AX09129 MW-3	Total/NA	Water	SM 4500 SO4 E	
MB 400-351301/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-351301/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-351301/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-136642-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-136642-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 351368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-4	AX09130 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-136862-5	AX09131 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-136862-6	AX09132 MW-4L	Total/NA	Water	SM 4500 SO4 E	
400-136862-7	AX09133 MW-3L	Total/NA	Water	SM 4500 SO4 E	
400-136862-8	AX09134 MW-2L	Total/NA	Water	SM 4500 SO4 E	
400-136862-9	AX09135 MW-1L	Total/NA	Water	SM 4500 SO4 E	
400-136862-10	AX09136 EB-1	Total/NA	Water	SM 4500 SO4 E	
MB 400-351368/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-351368/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-351368/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-136862-10 MS	AX09136 EB-1	Total/NA	Water	SM 4500 SO4 E	
400-136862-10 MSD	AX09136 EB-1	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 351469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-1	AX09127 MW-4	Total/NA	Water	SM 4500 F C	
400-136862-2	AX09128 MW-4 DUP	Total/NA	Water	SM 4500 F C	
400-136862-3	AX09129 MW-3	Total/NA	Water	SM 4500 F C	
MB 400-351469/4	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-351469/5	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-136862-1 MS	AX09127 MW-4	Total/NA	Water	SM 4500 F C	
400-136862-1 MSD	AX09127 MW-4	Total/NA	Water	SM 4500 F C	
400-136862-2 DU	AX09128 MW-4 DUP	Total/NA	Water	SM 4500 F C	

Analysis Batch: 351844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-4	AX09130 FB-1	Total/NA	Water	SM 4500 F C	
400-136862-5	AX09131 MW-8	Total/NA	Water	SM 4500 F C	

TestAmerica Pensacola

QC Association Summary

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

TestAmerica Job ID: 400-136862-1
SDG: Gorgas Gypsum (7)

General Chemistry (Continued)

Analysis Batch: 351844 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-6	AX09132 MW-4L	Total/NA	Water	SM 4500 F C	
400-136862-7	AX09133 MW-3L	Total/NA	Water	SM 4500 F C	
400-136862-8	AX09134 MW-2L	Total/NA	Water	SM 4500 F C	
400-136862-9	AX09135 MW-1L	Total/NA	Water	SM 4500 F C	
400-136862-10	AX09136 EB-1	Total/NA	Water	SM 4500 F C	
MB 400-351844/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-351844/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-136862-10 MS	AX09136 EB-1	Total/NA	Water	SM 4500 F C	
400-136862-10 MSD	AX09136 EB-1	Total/NA	Water	SM 4500 F C	

Analysis Batch: 352379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136862-5	AX09131 MW-8	Total/NA	Water	SM 4500 CI- E	
400-136862-6	AX09132 MW-4L	Total/NA	Water	SM 4500 CI- E	
400-136862-7	AX09133 MW-3L	Total/NA	Water	SM 4500 CI- E	
400-136862-8	AX09134 MW-2L	Total/NA	Water	SM 4500 CI- E	
400-136862-9	AX09135 MW-1L	Total/NA	Water	SM 4500 CI- E	
400-136862-10	AX09136 EB-1	Total/NA	Water	SM 4500 CI- E	
MB 400-352379/6	Method Blank	Total/NA	Water	SM 4500 CI- E	
LCS 400-352379/7	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
MRL 400-352379/3	Lab Control Sample	Total/NA	Water	SM 4500 CI- E	
400-136862-10 MS	AX09136 EB-1	Total/NA	Water	SM 4500 CI- E	
400-136862-10 MSD	AX09136 EB-1	Total/NA	Water	SM 4500 CI- E	

QC Sample Results

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

TestAmerica Job ID: 400-136862-1
 SDG: Gorgas Gypsum (7)

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-351289/6
Matrix: Water
Analysis Batch: 351289

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			04/25/17 13:05	1

Lab Sample ID: LCS 400-351289/7
Matrix: Water
Analysis Batch: 351289

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	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-351289/3
Matrix: Water
Analysis Batch: 351289

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	2.95		mg/L		147	50 - 150

Lab Sample ID: 400-136642-A-1 MS
Matrix: Water
Analysis Batch: 351289

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	20	F1 F2	10.0	34.0	F1	mg/L		137	73 - 120

Lab Sample ID: 400-136642-A-1 MSD
Matrix: Water
Analysis Batch: 351289

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	20	F1 F2	10.0	30.9	F2	mg/L		107	73 - 120	9	8

Lab Sample ID: MB 400-352379/6
Matrix: Water
Analysis Batch: 352379

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			05/04/17 09:35	1

Lab Sample ID: LCS 400-352379/7
Matrix: Water
Analysis Batch: 352379

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	31.4		mg/L		105	90 - 110

Lab Sample ID: MRL 400-352379/3
Matrix: Water
Analysis Batch: 352379

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	1.11	J	mg/L		55	50 - 150

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-136862-1
 SDG: Gorgas Gypsum (7)

Lab Sample ID: 400-136862-10 MS
Matrix: Water
Analysis Batch: 352379

Client Sample ID: AX09136 EB-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	EB Result	EB Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<0.60		10.0	9.51		mg/L		95	73 - 120

Lab Sample ID: 400-136862-10 MSD
Matrix: Water
Analysis Batch: 352379

Client Sample ID: AX09136 EB-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	EB Result	EB Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<0.60		10.0	9.39		mg/L		94	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-351469/4
Matrix: Water
Analysis Batch: 351469

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			04/26/17 16:14	1

Lab Sample ID: LCS 400-351469/5
Matrix: Water
Analysis Batch: 351469

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	4.13		mg/L		103	90 - 110

Lab Sample ID: 400-136862-1 MS
Matrix: Water
Analysis Batch: 351469

Client Sample ID: AX09127 MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.54		1.00	1.41		mg/L		87	75 - 125

Lab Sample ID: 400-136862-1 MSD
Matrix: Water
Analysis Batch: 351469

Client Sample ID: AX09127 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
Fluoride	0.54		1.00	1.41		mg/L		87	75 - 125	0	4

Lab Sample ID: 400-136862-2 DU
Matrix: Water
Analysis Batch: 351469

Client Sample ID: AX09128 MW-4 DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.54		0.570	F3	mg/L		5	4

QC Sample Results

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

TestAmerica Job ID: 400-136862-1
 SDG: Gorgas Gypsum (7)

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: MB 400-351844/3
 Matrix: Water
 Analysis Batch: 351844

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			04/29/17 11:24	1

Lab Sample ID: LCS 400-351844/4
 Matrix: Water
 Analysis Batch: 351844

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	4.13		mg/L		103	90 - 110

Lab Sample ID: 400-136862-10 MS
 Matrix: Water
 Analysis Batch: 351844

Client Sample ID: AX09136 EB-1
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	EB Result	EB Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.032		1.00	1.06		mg/L		106	75 - 125

Lab Sample ID: 400-136862-10 MSD
 Matrix: Water
 Analysis Batch: 351844

Client Sample ID: AX09136 EB-1
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	EB Result	EB Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.032		1.00	1.02		mg/L		102	75 - 125	4	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-351301/6
 Matrix: Water
 Analysis Batch: 351301

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			04/25/17 13:07	1

Lab Sample ID: LCS 400-351301/7
 Matrix: Water
 Analysis Batch: 351301

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		99	90 - 110

Lab Sample ID: MRL 400-351301/3
 Matrix: Water
 Analysis Batch: 351301

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	4.80	J	mg/L		96	50 - 150

QC Sample Results

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

TestAmerica Job ID: 400-136862-1
 SDG: Gorgas Gypsum (7)

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 400-136642-A-1 MS
Matrix: Water
Analysis Batch: 351301

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
Sulfate	5.5		10.0	16.4		mg/L		109	77 - 128

Lab Sample ID: 400-136642-A-1 MSD
Matrix: Water
Analysis Batch: 351301

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
Sulfate	5.5		10.0	16.7		mg/L		112	77 - 128	2	5

Lab Sample ID: MB 400-351368/6
Matrix: Water
Analysis Batch: 351368

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			04/26/17 08:11	1

Lab Sample ID: LCS 400-351368/7
Matrix: Water
Analysis Batch: 351368

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	14.4		mg/L		96	90 - 110

Lab Sample ID: MRL 400-351368/3
Matrix: Water
Analysis Batch: 351368

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	4.41	J	mg/L		88	50 - 150

Lab Sample ID: 400-136862-10 MS
Matrix: Water
Analysis Batch: 351368

Client Sample ID: AX09136 EB-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	EB Result	EB Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.9	J F1	10.0	8.61	F1	mg/L		57	77 - 128

Lab Sample ID: 400-136862-10 MSD
Matrix: Water
Analysis Batch: 351368

Client Sample ID: AX09136 EB-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	EB Result	EB Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	2.9	J F1	10.0	8.90	F1	mg/L		60	77 - 128	3	5

Chain of Custody Record

Client Information		Lab PM: Whitmire, Cheyenne R		COC No: 400-56525-24537.1	
Client Contact: Sarah Copeland		E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1	
Company: Alabama Power General Test Laboratory		Address: 744 County Rd 87 GSC #8		Job #: 400-138862	
City: Calera		State: AL, 35040		Analysis Requested	
Phone: 205-664-6121(Tel)		PO #: _____		Total Number of containers	
Email: sgcopela@southernco.com		WO #: _____		Preservation Codes:	
Project Name: CCR		Project #: 40007143		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 X - other (specify)	
Site: Gorgas Gypsum (7)		SSOW#: _____		Special Instructions/Note:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, etc.)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SM 4500 F.C	SM 4500 CL	SM 4500 SO4.E	Total Number of containers	Special Instructions/Note:
					Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)							
AX09127	4/17/17	1343	G	Water	X	X	X	X				1	MW-4
AX09128	4/17/17	1343	G	Water	X	X	X	X				1	MW-4 Dup (Sample Duplicate)
AX09129	4/17/17	1500	G	Water	X	X	X	X				1	MW-3
AX09130	4/17/17	1530	G	Water	X	X	X	X				1	FB-1 (Field Blank)
AX09131	4/18/17	0921	G	Water	X	X	X	X				1	MW-8
AX09132	4/18/17	1040	G	Water	X	X	X	X				1	MW-4L
AX09133	4/18/17	1209	G	Water	X	X	X	X				1	MW-3L
AX09134	4/18/17	1333	G	Water	X	X	X	X				1	MW-2L
AX09135	4/18/17	1433	G	Water	X	X	X	X				1	MW-1L
AX09136	4/18/17	1505	G	Water	Y	X	X	X				1	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: 04/21/2017: 0930 Company: APC

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No No
 Cooler Temperature(s) °C and Other Remarks: 1.8°C SR-2

Special Instructions/QC Requirements: 4-21-17 0903 JHC

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Method of Shipment: _____



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-136862-1
SDG Number: Gorgas Gypsum (7)

Login Number: 136862

List Number: 1

Creator: Siddoway, Benjamin

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	1.8°C IR-2
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: 400-136862-1
 SDG: Gorgas Gypsum (7)

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	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP Secondary AB	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17
West Virginia DEP	State Program	3	136	06-30-17

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: 400-136860-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (7)

Client Project/Site: CCR Plant Gorgas

For:

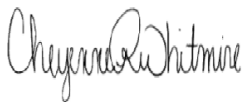
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

5/24/2017 6:36:04 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@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: 400-136860-1
SDG: Gorgas Gypsum (7)

Job ID: 400-136860-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-136860-1

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-306416. The following samples were reduced due to limited volume: AX09117 MW-4 (400-136860-1), AX09118 MW-4 DUP (400-136860-2), AX09119 MW-3 (400-136860-3), AX09120 FB-1 (400-136860-4), AX09121 MW-8 (400-136860-5), AX09122 MW-4L (400-136860-6), AX09122 MW-4L (400-136860-6[DUJ]), AX09123 MW-3L (400-136860-7), AX09124 MW-2L (400-136860-8), AX09125 MW-1L (400-136860-9) and AX09126 EB-1 (400-136860-10).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-306318. The following samples were reduced due to limited volume: AX09117 MW-4 (400-136860-1), AX09118 MW-4 DUP (400-136860-2), AX09119 MW-3 (400-136860-3), AX09120 FB-1 (400-136860-4), AX09121 MW-8 (400-136860-5), AX09122 MW-4L (400-136860-6), AX09122 MW-4L (400-136860-6[DUJ]), AX09123 MW-3L (400-136860-7), AX09124 MW-2L (400-136860-8), AX09125 MW-1L (400-136860-9) and AX09126 EB-1 (400-136860-10).

Method Summary

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

TestAmerica Job ID: 400-136860-1
SDG: Gorgas Gypsum (7)

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: 400-136860-1
SDG: Gorgas Gypsum (7)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-136860-1	AX09117 MW-4	Water	04/17/17 13:43	04/21/17 09:43
400-136860-2	AX09118 MW-4 DUP	Water	04/17/17 13:43	04/21/17 09:43
400-136860-3	AX09119 MW-3	Water	04/17/17 15:00	04/21/17 09:43
400-136860-4	AX09120 FB-1	Water	04/17/17 15:30	04/21/17 09:43
400-136860-5	AX09121 MW-8	Water	04/18/17 09:21	04/21/17 09:43
400-136860-6	AX09122 MW-4L	Water	04/18/17 10:40	04/21/17 09:43
400-136860-7	AX09123 MW-3L	Water	04/18/17 12:09	04/21/17 09:43
400-136860-8	AX09124 MW-2L	Water	04/18/17 13:33	04/21/17 09:43
400-136860-9	AX09125 MW-1L	Water	04/18/17 14:33	04/21/17 09:43
400-136860-10	AX09126 EB-1	Water	04/18/17 15:05	04/21/17 09:43

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09117 MW-4

Lab Sample ID: 400-136860-1

Date Collected: 04/17/17 13:43

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0830	U	0.0667	0.0672	1.00	0.0921	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:13	05/23/17 05:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.169	U	0.217	0.218	1.00	0.361	pCi/L	05/01/17 08:40	05/12/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:40	05/12/17 14:44	1
Y Carrier	93.1		40 - 110					05/01/17 08:40	05/12/17 14:44	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	0.252	U	0.227	0.228	5.00	0.361	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09118 MW-4 DUP

Lab Sample ID: 400-136860-2

Date Collected: 04/17/17 13:43

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.114		0.0781	0.0788	1.00	0.104	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:13	05/23/17 05:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.208	U	0.244	0.245	1.00	0.403	pCi/L	05/01/17 08:40	05/12/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:40	05/12/17 14:44	1
Y Carrier	93.1		40 - 110					05/01/17 08:40	05/12/17 14:44	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	0.322	U	0.257	0.257	5.00	0.403	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09119 MW-3

Lab Sample ID: 400-136860-3

Date Collected: 04/17/17 15:00

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0402	U	0.0716	0.0717	1.00	0.126	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					05/01/17 08:13	05/23/17 05:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.267	U	0.287	0.288	1.00	0.470	pCi/L	05/01/17 08:40	05/12/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					05/01/17 08:40	05/12/17 14:44	1
Y Carrier	83.7		40 - 110					05/01/17 08:40	05/12/17 14:44	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	0.307	U	0.296	0.297	5.00	0.470	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09120 FB-1

Lab Sample ID: 400-136860-4

Date Collected: 04/17/17 15:30

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0300	U	0.0516	0.0516	1.00	0.0920	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:13	05/23/17 05:46	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	0.212	0.213	1.00	0.421	pCi/L	05/01/17 08:40	05/12/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:40	05/12/17 14:44	1
Y Carrier	87.9		40 - 110					05/01/17 08:40	05/12/17 14:44	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	-0.122	U	0.218	0.219	5.00	0.421	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09121 MW-8

Lab Sample ID: 400-136860-5

Date Collected: 04/18/17 09:21

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0548	U	0.0824	0.0826	1.00	0.141	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					05/01/17 08:13	05/23/17 05:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.193	U	0.247	0.247	1.00	0.409	pCi/L	05/01/17 08:40	05/12/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					05/01/17 08:40	05/12/17 14:44	1
Y Carrier	91.6		40 - 110					05/01/17 08:40	05/12/17 14:44	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	0.248	U	0.260	0.261	5.00	0.409	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09122 MW-4L

Lab Sample ID: 400-136860-6

Date Collected: 04/18/17 10:40

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0281	U	0.0709	0.0709	1.00	0.130	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:13	05/23/17 05:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0720	U	0.264	0.264	1.00	0.484	pCi/L	05/01/17 08:40	05/12/17 14:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:40	05/12/17 14:44	1
Y Carrier	89.0		40 - 110					05/01/17 08:40	05/12/17 14:44	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	-0.0439	U	0.273	0.274	5.00	0.484	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09123 MW-3L

Lab Sample ID: 400-136860-7

Date Collected: 04/18/17 12:09

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0531	U	0.0659	0.0660	1.00	0.108	pCi/L	05/01/17 08:13	05/23/17 05:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					05/01/17 08:13	05/23/17 05:46	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.281	U	0.279	0.280	1.00	0.452	pCi/L	05/01/17 08:40	05/12/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					05/01/17 08:40	05/12/17 14:46	1
Y Carrier	90.5		40 - 110					05/01/17 08:40	05/12/17 14:46	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	0.334	U	0.286	0.288	5.00	0.452	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09124 MW-2L

Lab Sample ID: 400-136860-8

Date Collected: 04/18/17 13:33

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0451	U	0.0844	0.0845	1.00	0.149	pCi/L	05/01/17 08:13	05/23/17 05:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					05/01/17 08:13	05/23/17 05:47	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.275	U	0.268	0.269	1.00	0.433	pCi/L	05/01/17 08:40	05/12/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.1		40 - 110					05/01/17 08:40	05/12/17 14:46	1
Y Carrier	89.7		40 - 110					05/01/17 08:40	05/12/17 14:46	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	0.320	U	0.281	0.282	5.00	0.433	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09125 MW-1L

Lab Sample ID: 400-136860-9

Date Collected: 04/18/17 14:33

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0821	U	0.0737	0.0741	1.00	0.109	pCi/L	05/01/17 08:13	05/23/17 05:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					05/01/17 08:13	05/23/17 05:47	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.852		0.328	0.338	1.00	0.437	pCi/L	05/01/17 08:40	05/12/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					05/01/17 08:40	05/12/17 14:46	1
Y Carrier	83.7		40 - 110					05/01/17 08:40	05/12/17 14:46	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	0.934		0.337	0.346	5.00	0.437	pCi/L		05/24/17 16:26	1

Client Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09126 EB-1

Lab Sample ID: 400-136860-10

Date Collected: 04/18/17 15:05

Matrix: Water

Date Received: 04/21/17 09:43

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0403	U	0.0584	0.0586	1.00	0.0999	pCi/L	05/01/17 08:13	05/23/17 05:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:13	05/23/17 05:48	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0893	U	0.241	0.241	1.00	0.419	pCi/L	05/01/17 08:40	05/12/17 14:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					05/01/17 08:40	05/12/17 14:46	1
Y Carrier	87.5		40 - 110					05/01/17 08:40	05/12/17 14:46	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	0.130	U	0.248	0.248	5.00	0.419	pCi/L		05/24/17 16:26	1

Definitions/Glossary

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

TestAmerica Job ID: 400-136860-1
SDG: Gorgas Gypsum (7)

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: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09117 MW-4

Lab Sample ID: 400-136860-1

Date Collected: 04/17/17 13:43

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 14:44	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09118 MW-4 DUP

Lab Sample ID: 400-136860-2

Date Collected: 04/17/17 13:43

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 14:44	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09119 MW-3

Lab Sample ID: 400-136860-3

Date Collected: 04/17/17 15:00

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 14:44	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09120 FB-1

Lab Sample ID: 400-136860-4

Date Collected: 04/17/17 15:30

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 14:44	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Client Sample ID: AX09121 MW-8

Lab Sample ID: 400-136860-5

Date Collected: 04/18/17 09:21

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 14:44	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09122 MW-4L

Lab Sample ID: 400-136860-6

Date Collected: 04/18/17 10:40

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308397	05/12/17 14:44	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09123 MW-3L

Lab Sample ID: 400-136860-7

Date Collected: 04/18/17 12:09

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309874	05/23/17 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308386	05/12/17 14:46	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09124 MW-2L

Lab Sample ID: 400-136860-8

Date Collected: 04/18/17 13:33

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309975	05/23/17 05:47	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308386	05/12/17 14:46	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-136860-1
SDG: Gorgas Gypsum (7)

Client Sample ID: AX09125 MW-1L

Lab Sample ID: 400-136860-9

Date Collected: 04/18/17 14:33

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309975	05/23/17 05:47	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308386	05/12/17 14:46	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: AX09126 EB-1

Lab Sample ID: 400-136860-10

Date Collected: 04/18/17 15:05

Matrix: Water

Date Received: 04/21/17 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306318	05/01/17 08:13	LDE	TAL SL
Total/NA	Analysis	9315		1	309975	05/23/17 05:48	RTM	TAL SL
Total/NA	Prep	PrecSep_0			306416	05/01/17 08:40	LDE	TAL SL
Total/NA	Analysis	9320		1	308386	05/12/17 14:46	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	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: 400-136860-1
SDG: Gorgas Gypsum (7)

Rad

Prep Batch: 306318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136860-1	AX09117 MW-4	Total/NA	Water	PrecSep-21	
400-136860-2	AX09118 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-136860-3	AX09119 MW-3	Total/NA	Water	PrecSep-21	
400-136860-4	AX09120 FB-1	Total/NA	Water	PrecSep-21	
400-136860-5	AX09121 MW-8	Total/NA	Water	PrecSep-21	
400-136860-6	AX09122 MW-4L	Total/NA	Water	PrecSep-21	
400-136860-7	AX09123 MW-3L	Total/NA	Water	PrecSep-21	
400-136860-8	AX09124 MW-2L	Total/NA	Water	PrecSep-21	
400-136860-9	AX09125 MW-1L	Total/NA	Water	PrecSep-21	
400-136860-10	AX09126 EB-1	Total/NA	Water	PrecSep-21	
MB 160-306318/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-306318/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-136860-6 DU	AX09122 MW-4L	Total/NA	Water	PrecSep-21	

Prep Batch: 306416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-136860-1	AX09117 MW-4	Total/NA	Water	PrecSep_0	
400-136860-2	AX09118 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-136860-3	AX09119 MW-3	Total/NA	Water	PrecSep_0	
400-136860-4	AX09120 FB-1	Total/NA	Water	PrecSep_0	
400-136860-5	AX09121 MW-8	Total/NA	Water	PrecSep_0	
400-136860-6	AX09122 MW-4L	Total/NA	Water	PrecSep_0	
400-136860-7	AX09123 MW-3L	Total/NA	Water	PrecSep_0	
400-136860-8	AX09124 MW-2L	Total/NA	Water	PrecSep_0	
400-136860-9	AX09125 MW-1L	Total/NA	Water	PrecSep_0	
400-136860-10	AX09126 EB-1	Total/NA	Water	PrecSep_0	
MB 160-306416/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-306416/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-136860-6 DU	AX09122 MW-4L	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-306318/1-A
Matrix: Water
Analysis Batch: 309874

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306318

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.005854	U	0.0409	0.0409	1.00	0.0875	pCi/L	05/01/17 08:13	05/23/17 05:44	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					05/01/17 08:13	05/23/17 05:44	1

Lab Sample ID: LCS 160-306318/2-A
Matrix: Water
Analysis Batch: 309874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306318

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	10.32		1.06	1.00	0.0905	pCi/L	91	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	99.7		40 - 110						

Lab Sample ID: 400-136860-6 DU
Matrix: Water
Analysis Batch: 309874

Client Sample ID: AX09122 MW-4L
Prep Type: Total/NA
Prep Batch: 306318

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.0281	U	0.09610	U	0.0775	1.00	0.111	pCi/L	0.46	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	102		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-306416/1-A
Matrix: Water
Analysis Batch: 308397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306416

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1108	U	0.201	0.201	1.00	0.341	pCi/L	05/01/17 08:40	05/12/17 14:43	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					05/01/17 08:40	05/12/17 14:43	1
Y Carrier	89.0		40 - 110					05/01/17 08:40	05/12/17 14:43	1

QC Sample Results

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

TestAmerica Job ID: 400-136860-1
 SDG: Gorgas Gypsum (7)

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

Lab Sample ID: LCS 160-306416/2-A
Matrix: Water
Analysis Batch: 308397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306416

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	13.5	12.05		1.30	1.00	0.328	pCi/L	90	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	99.7		40 - 110
Y Carrier	96.4		40 - 110

Lab Sample ID: 400-136860-6 DU
Matrix: Water
Analysis Batch: 308397

Client Sample ID: AX09122 MW-4L
Prep Type: Total/NA
Prep Batch: 306416

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	-0.0720	U	0.2226	U	0.280	1.00	0.463	pCi/L	0.54	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	102		40 - 110
Y Carrier	86.4		40 - 110

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-136860-6 DU
Matrix: Water
Analysis Batch: 310413

Client Sample ID: AX09122 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	-0.0439	U	0.3187	U	0.290	5.00	0.463	pCi/L	0.64	

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Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: Ben Rothschild		Lab PM: Whitmire, Cheyenne R.		Carrier Tracking No(s):		COC No: 400-56525-24537.1	
Client Contact: Sarah Copeland		Phone:		E-Mail: cheyenne.whitmire@testamericainc.com		Page 1 of 1		Job #: 400-136860	
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: sgcopela@southernco.com		Project #: 40007143		SSOW#: _____		Site: Gorgas Gypsum (7)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: _____ M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Due Date Requested:		TAT Requested (days):		Routine		Analysis Requested		Total Number of Containers	
Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wasteloid, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)	
Sample Identification		Preservation Code:		Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
AX09117	4/17/17	1343	G	Water	X	X	X	MW-4	
AX09118	4/17/17	1343	G	Water	X	X	X	MW-4 Dup (Sample Duplicate)	
AX09119	4/17/17	1500	G	Water	X	X	X	MW-3	
AX09120	4/17/17	1530	G	Water	X	X	X	FB-1 (Field Blank)	
AX09121	4/18/17	0921	G	Water	X	X	X	MW-8	
AX09122	4/18/17	1040	G	Water	Y	X	X	MW-4L	
AX09123	4/18/17	1209	G	Water	X	X	X	MW-3L	
AX09124	4/18/17	1333	G	Water	X	X	X	MW-2L	
AX09125	4/18/17	1433	G	Water	X	X	X	MW-1L	
AX09126	4/18/17	1505	G	Water	X	X	X	EB-1 (Equipment Blank)	
Possible Hazard Identification <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) Special Instructions/QC Requirements:									
Empty Kit Relinquished by: Sarah Copeland Date/Time: 04/21/2017: 0930 Company: APC									
Relinquished by: Sarah Copeland Date/Time: _____ Company: _____									
Relinquished by: _____ Date/Time: _____ Company: _____									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks: 3.4°C SP-2									



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-136860-1
SDG Number: Gorgas Gypsum (7)

Login Number: 136860

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	3.4°C IR-2
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: 400-136860-1
 SDG: Gorgas Gypsum (7)

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	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-17
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-17
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-17
Washington	State Program	10	C915	05-15-17 *
West Virginia DEP	State Program	3	136	06-30-17

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	06-30-17 *
California	State Program	9	2886	03-31-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-17 *
Illinois	NELAP	5	200023	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17 *
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17 *
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: 400-136860-1
SDG: Gorgas Gypsum (7)

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	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-16-10	07-31-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17
Virginia	NELAP	3	460230	06-14-17 *
Washington	State Program	10	C592	08-30-17
West Virginia DEP	State Program	3	381	08-31-17 *

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

TestAmerica Pensacola



Chain of Custody Groundwater

APC General Testing Laboratory
General Service Complex Building 8

- Field Complete
- Lab Complete

Lab ETA 04/19/2017 08:30

Requested Complete Date	<input type="text" value="Routine"/>	Results To	<input type="text" value="Dustin Brooks, Greg Dyer"/>
Site Representative	<input type="text" value="Che George"/>	Requested By	<input type="text" value="Greg Dyer"/>
Collector	<input type="text" value="Ben Rothschild"/>	Location	<input type="text" value="Gorgas Gypsum"/>
Analysis Requested	<input type="text" value="Bottle 1 (1L): Radiological"/>		
Comments	<input type="text" value="Radium Duplicate Collected at MW-4L*
 MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Benjamin Rothschild located at Gorgas Landfill sample site. Benjamin Rothschild SmarTroll ID 4696-23441-1-1, Turbidity ID 3901-20010-2-2"/>		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-4	04/17/2017	13:43	1	Groundwater		AX09117
MW-4 DUP	04/17/2017	13:43	1	Sample Duplicate		AX09118
MW-3	04/17/2017	15:00	1	Groundwater		AX09119
FB-1	04/17/2017	15:30	1	Field Blank		AX09120
MW-8	04/18/2017	09:21	1	Groundwater		AX09121
MW-4L*	04/18/2017	10:40	3	Groundwater		AX09122
MW-3L*	04/18/2017	12:09	1	Groundwater		AX09123
MW-2L*	04/18/2017	13:33	1	Groundwater		AX09124
MW-1L*	04/18/2017	14:33	1	Groundwater		AX09125
EB-1	04/18/2017	15:05	1	Equipment Blank		AX09126

Relinquished By	Received By	Date/Time
<i>Ben Rothschild</i>	Sarah Copeland <small>Digitally signed by Sarah Copeland DN: cn=Sarah Copeland, o.ou, email=sgcopela@southerncco.com, c=US Date: 2017.04.19 07:51:55 -0500</small>	04/19/2017 07:51

SmarTroll ID <input type="text" value="4696-23441-1-1"/>	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID <input type="text" value="3901-20010-2-2"/>	Cooler Temp <input type="text" value="NA"/>
	Thermometer ID <input type="text" value="NA"/>
	pH Strip ID <input type="text" value="5521-28268-20-12"/>

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

 Alabama Power



Sample Group : WMWGORG_1097

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1097

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 anions were outsourced to Test America, Pensacola for analysis. Listed below is the job narrative provided by Test America.

Job Narrative
400-138811-1
General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) RPD for batch 357755 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 356378 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: AX12568 MW-4 (400-138811-1), AX12569 MW-4 DUP (400-138811-2) and AX12570 MW-3 (400-138811-3). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 356536 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. Samples required a dilution, which may have diluted the spike

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AX12570 MW-3 (400-138811-3), AX12571 MW-8 (400-138811-4), AX12571 MW-8 (400-138811-4[MS]), AX12571 MW-8 (400-138811-4[MSD]) and AX12574 MW-1L (400-138811-7). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 356862 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.



Metals ICP

Gorgas Gypsum

WMWGORG_1097

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>
AX12568	20170609EK	WMWGORG_1097
AX12569	20170609EK	WMWGORG_1097
AX12570	20170609EK	WMWGORG_1097
AX12571	20170609EK	WMWGORG_1097
AX12572	20170609EK	WMWGORG_1097
AX12573	20170609EK	WMWGORG_1097
AX12574	20170609EK	WMWGORG_1097
AX12575	20170609EK	WMWGORG_1097
AX12576	20170609EK	WMWGORG_1097
AX12577	20170609EK	WMWGORG_1097

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

General Quality Control Procedures:

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

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AX12577

The concentration of the analyte in the matrix spike/matrix spike duplicate added before digestion is less than 30 percent of the sample concentration, causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- 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 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>
AX12568	Calcium	x10
AX12569	Calcium	x10
AX12570	Calcium	X100
AX12571	Calcium	x10
AX12574	Calcium	x10
AX12575	Calcium	x10
AX12576	Calcium	x10
AX12577	Calcium	x10
AX12577MS	Calcium	x10
AX12577MSD	Calcium	x10

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



Metals ICPMS

Gorgas Gypsum

WMWGORG_1097

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>
AX12568	595696	WMWGORG_1097
AX12569	595696	WMWGORG_1097
AX12570	595696	WMWGORG_1097
AX12571	595696	WMWGORG_1097
AX12572	595696	WMWGORG_1097
AX12573	595696	WMWGORG_1097
AX12574	595748	WMWGORG_1097
AX12575	595748	WMWGORG_1097
AX12576	595748	WMWGORG_1097
AX12577	595748	WMWGORG_1097

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_1097

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>
AX12568	596164	WMWGORG_1097
AX12569	596164	WMWGORG_1097
AX12570	596164	WMWGORG_1097
AX12571	596164	WMWGORG_1097
AX12572	596164	WMWGORG_1097
AX12573	596164	WMWGORG_1097
AX12574	596164	WMWGORG_1097
AX12575	596164	WMWGORG_1097
AX12576	596164	WMWGORG_1097
AX12577	596164	WMWGORG_1097

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_1097

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>
AX12568	595831	WMWGORG_1097
AX12569	595831	WMWGORG_1097
AX12570	595831	WMWGORG_1097
AX12571	595831	WMWGORG_1097
AX12572	595832	WMWGORG_1097
AX12573	595832	WMWGORG_1097
AX12574	595832	WMWGORG_1097
AX12575	596256	WMWGORG_1097
AX12576	596256	WMWGORG_1097
AX12577	596256	WMWGORG_1097

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 0.5 mg of the previous weight, with the exception of the blank for final weights 1 & 2, which passed equilibrium requirements.
- 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 2.5 mg and 200 mg residue with the exception of AX12572 and AX12573 which did not meet the 2.5mg residue requirement.

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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX12568

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.0117	mg/L
* Beryllium, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	0.00517	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	3.79	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		10	1.00	5	93.9	mg/L
* Cadmium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	0.00167	mg/L
* Antimony, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.159	mg/L
* Chromium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	0.285	mg/L
* Molybdenum, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	J 0.00471	mg/L
* Thallium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C		1		100	1060	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		4	2.40	8.0	99	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	0.49	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		30	42.0	150	530	mg/L

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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, 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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX12568

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12573	Antimony, Total	mg/L	0.0000314	0.00132	0.10	0.0906	0.0872	0.0923	0.085 to 0.115	90.6	70 to 130	3.77	20
AX12573	Cadmium, Total	mg/L	0.00000870	0.00044	0.10	0.0965	0.0955	0.0955	0.085 to 0.115	96.5	70 to 130	1.10	20
AX12573	Lead, Total	mg/L	0.0000281	0.0022	0.10	0.107	0.104	0.102	0.085 to 0.115	107	70 to 130	3.02	20
AX12573	Beryllium, Total	mg/L	0.0000212	0.00132	0.10	0.0935	0.0903	0.0999	0.085 to 0.115	93.5	70 to 130	3.49	20
AX12573	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0922	0.0879	0.0952	0.085 to 0.115	92.2	70 to 130	4.79	20
AX12573	Thallium, Total	mg/L	0.0000126	0.00044	0.10	0.106	0.103	0.102	0.085 to 0.115	106	70 to 130	3.39	20
AX12573	Arsenic, Total	mg/L	0.0000172	0.0022	0.10	0.103	0.0998	0.105	0.085 to 0.115	103	70 to 130	2.78	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12573	Barium, Total	mg/L	0.0000224	0.0044	0.10	0.0950	0.0887	0.0925	0.085 to 0.115	95.0	70 to 130	6.86	20
AX12573	Chromium, Total	mg/L	0.0000418	0.0044	0.10	0.102	0.0969	0.0988	0.085 to 0.115	102	70 to 130	4.97	20
AX12573	Molybdenum, Total	mg/L	0.0000127	0.0044	0.10	0.0882	0.0826	0.0860	0.085 to 0.115	88.2	70 to 130	6.57	20
AX12573	Selenium, Total	mg/L	0.0000422	0.0044	0.10	0.102	0.0956	0.102	0.085 to 0.115	102	70 to 130	6.15	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX12568

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12571	Solids, Dissolved	mg/L	-2.0	25			2910	54.0	40 to 60	1.19	5

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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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4 DUP

Laboratory ID Number: AX12569

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.0110	mg/L
* Beryllium, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	0.00493	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	3.73	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		10	1.00	5	92.9	mg/L
* Cadmium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	0.00160	mg/L
* Antimony, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.158	mg/L
* Chromium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	0.281	mg/L
* Molybdenum, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	J 0.00451	mg/L
* Thallium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C		1		100	1080	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		4	2.40	8.0	99	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	0.51	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		30	42.0	150	510	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4 DUP

Laboratory ID Number: AX12569

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12573	Antimony, Total	mg/L	0.0000314	0.00132	0.10	0.0906	0.0872	0.0923	0.085 to 0.115	90.6	70 to 130	3.77	20
AX12573	Cadmium, Total	mg/L	0.00000870	0.00044	0.10	0.0965	0.0955	0.0955	0.085 to 0.115	96.5	70 to 130	1.10	20
AX12573	Lead, Total	mg/L	0.0000281	0.0022	0.10	0.107	0.104	0.102	0.085 to 0.115	107	70 to 130	3.02	20
AX12573	Arsenic, Total	mg/L	0.0000172	0.0022	0.10	0.103	0.0998	0.105	0.085 to 0.115	103	70 to 130	2.78	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12573	Beryllium, Total	mg/L	0.0000212	0.00132	0.10	0.0935	0.0903	0.0999	0.085 to 0.115	93.5	70 to 130	3.49	20
AX12573	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0922	0.0879	0.0952	0.085 to 0.115	92.2	70 to 130	4.79	20
AX12573	Thallium, Total	mg/L	0.0000126	0.00044	0.10	0.106	0.103	0.102	0.085 to 0.115	106	70 to 130	3.39	20
AX12573	Barium, Total	mg/L	0.0000224	0.0044	0.10	0.0950	0.0887	0.0925	0.085 to 0.115	95.0	70 to 130	6.86	20
AX12573	Chromium, Total	mg/L	0.0000418	0.0044	0.10	0.102	0.0969	0.0988	0.085 to 0.115	102	70 to 130	4.97	20
AX12573	Molybdenum, Total	mg/L	0.0000127	0.0044	0.10	0.0882	0.0826	0.0860	0.085 to 0.115	88.2	70 to 130	6.57	20
AX12573	Selenium, Total	mg/L	0.0000422	0.0044	0.10	0.102	0.0956	0.102	0.085 to 0.115	102	70 to 130	6.15	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4 DUP

Laboratory ID Number: AX12569

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12571	Solids, Dissolved	mg/L	-2.0	25			2910	54.0	40 to 60	1.19	5

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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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX12570

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.0121	mg/L
* Beryllium, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	J 0.00204	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	2.90	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		100	10.0	50	515	mg/L
* Cadmium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.0832	mg/L
* Chromium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	0.479	mg/L
* Molybdenum, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C		1		250	5170	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		10	6.00	20	310	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	0.38	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		120	170	600	2900	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX12570

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX12573	Antimony, Total	mg/L	0.0000314	0.00132	0.10	0.0906	0.0872	0.0923	0.085 to 0.115	90.6	70 to 130	3.77	20	
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20	
AX12573	Cadmium, Total	mg/L	0.00000870	0.00044	0.10	0.0965	0.0955	0.0955	0.085 to 0.115	96.5	70 to 130	1.10	20	
AX12573	Lead, Total	mg/L	0.0000281	0.0022	0.10	0.107	0.104	0.102	0.085 to 0.115	107	70 to 130	3.02	20	
AX12573	Beryllium, Total	mg/L	0.0000212	0.00132	0.10	0.0935	0.0903	0.0999	0.085 to 0.115	93.5	70 to 130	3.49	20	
AX12573	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0922	0.0879	0.0952	0.085 to 0.115	92.2	70 to 130	4.79	20	
AX12573	Thallium, Total	mg/L	0.0000126	0.00044	0.10	0.106	0.103	0.102	0.085 to 0.115	106	70 to 130	3.39	20	
AX12573	Arsenic, Total	mg/L	0.0000172	0.0022	0.10	0.103	0.0998	0.105	0.085 to 0.115	103	70 to 130	2.78	20	
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20	
AX12573	Barium, Total	mg/L	0.0000224	0.0044	0.10	0.0950	0.0887	0.0925	0.085 to 0.115	95.0	70 to 130	6.86	20	
AX12573	Chromium, Total	mg/L	0.0000418	0.0044	0.10	0.102	0.0969	0.0988	0.085 to 0.115	102	70 to 130	4.97	20	
AX12573	Molybdenum, Total	mg/L	0.0000127	0.0044	0.10	0.0882	0.0826	0.0860	0.085 to 0.115	88.2	70 to 130	6.57	20	
AX12573	Selenium, Total	mg/L	0.0000422	0.0044	0.10	0.102	0.0956	0.102	0.085 to 0.115	102	70 to 130	6.15	20	
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20	
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX12570

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12571	Solids, Dissolved	mg/L	-2.0	25			2910	54.0	40 to 60	1.19	5

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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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX12571

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	0.0272	mg/L
* Beryllium, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	0.105	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		10	1.00	5	316	mg/L
* Cadmium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	0.141	mg/L
* Molybdenum, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C		1		250	2980	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		1	0.60	2.00	15	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	0.16	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		60	84.0	300	1500	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX12571

Sample	Analysis	Units	MB		Spike	MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit					Limit	Rec	Limit	Prec		
AX12573	Antimony, Total	mg/L	0.0000314	0.00132	0.10	0.0906	0.0872	0.0923	0.085 to 0.115	90.6	70 to 130	3.77	20	
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20	
AX12573	Cadmium, Total	mg/L	0.00000870	0.00044	0.10	0.0965	0.0955	0.0955	0.085 to 0.115	96.5	70 to 130	1.10	20	
AX12573	Lead, Total	mg/L	0.0000281	0.0022	0.10	0.107	0.104	0.102	0.085 to 0.115	107	70 to 130	3.02	20	
AX12573	Beryllium, Total	mg/L	0.0000212	0.00132	0.10	0.0935	0.0903	0.0999	0.085 to 0.115	93.5	70 to 130	3.49	20	
AX12573	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0922	0.0879	0.0952	0.085 to 0.115	92.2	70 to 130	4.79	20	
AX12573	Thallium, Total	mg/L	0.0000126	0.00044	0.10	0.106	0.103	0.102	0.085 to 0.115	106	70 to 130	3.39	20	
AX12573	Arsenic, Total	mg/L	0.0000172	0.0022	0.10	0.103	0.0998	0.105	0.085 to 0.115	103	70 to 130	2.78	20	
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20	
AX12573	Barium, Total	mg/L	0.0000224	0.0044	0.10	0.0950	0.0887	0.0925	0.085 to 0.115	95.0	70 to 130	6.86	20	
AX12573	Chromium, Total	mg/L	0.0000418	0.0044	0.10	0.102	0.0969	0.0988	0.085 to 0.115	102	70 to 130	4.97	20	
AX12573	Molybdenum, Total	mg/L	0.0000127	0.0044	0.10	0.0882	0.0826	0.0860	0.085 to 0.115	88.2	70 to 130	6.57	20	
AX12573	Selenium, Total	mg/L	0.0000422	0.0044	0.10	0.102	0.0956	0.102	0.085 to 0.115	102	70 to 130	6.15	20	
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20	
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX12571

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12571	Solids, Dissolved	mg/L	-2.0	25			2910	54.0	40 to 60	1.19	5

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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: WMWGORGFB
 Sample Date: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX12572

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Beryllium, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		1	0.60	2.00	U <0.60	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		1	1.40	5.00	U <1.4	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: WMWGORGFB
 Sample Date: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX12572

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX12573	Antimony, Total	mg/L	0.0000314	0.00132	0.10	0.0906	0.0872	0.0923	0.085 to 0.115	90.6	70 to 130	3.77	20
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12573	Cadmium, Total	mg/L	0.00000870	0.00044	0.10	0.0965	0.0955	0.0955	0.085 to 0.115	96.5	70 to 130	1.10	20
AX12573	Lead, Total	mg/L	0.0000281	0.0022	0.10	0.107	0.104	0.102	0.085 to 0.115	107	70 to 130	3.02	20
AX12573	Beryllium, Total	mg/L	0.0000212	0.00132	0.10	0.0935	0.0903	0.0999	0.085 to 0.115	93.5	70 to 130	3.49	20
AX12573	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0922	0.0879	0.0952	0.085 to 0.115	92.2	70 to 130	4.79	20
AX12573	Thallium, Total	mg/L	0.0000126	0.00044	0.10	0.106	0.103	0.102	0.085 to 0.115	106	70 to 130	3.39	20
AX12573	Barium, Total	mg/L	0.0000224	0.0044	0.10	0.0950	0.0887	0.0925	0.085 to 0.115	95.0	70 to 130	6.86	20
AX12573	Chromium, Total	mg/L	0.0000418	0.0044	0.10	0.102	0.0969	0.0988	0.085 to 0.115	102	70 to 130	4.97	20
AX12573	Molybdenum, Total	mg/L	0.0000127	0.0044	0.10	0.0882	0.0826	0.0860	0.085 to 0.115	88.2	70 to 130	6.57	20
AX12573	Selenium, Total	mg/L	0.0000422	0.0044	0.10	0.102	0.0956	0.102	0.085 to 0.115	102	70 to 130	6.15	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	20
AX12573	Arsenic, Total	mg/L	0.0000172	0.0022	0.10	0.103	0.0998	0.105	0.085 to 0.115	103	70 to 130	2.78	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX12572

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX12601	Solids, Dissolved	mg/L	9.00		25			2850	59.0	40 to 60			0.697	5

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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: WMWGORGE
 Sample Date: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX12573

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Beryllium, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		2	0.1	0.5	U Not Detected	mg/L
* Cadmium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	6/5/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	U Not Detected	mg/L
* Molybdenum, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/5/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/5/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	6/5/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		1	0.60	2.00	U <0.60	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		1	1.40	5.00	U <1.4	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: WMWGORGE
 Sample Date: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX12573

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX12573	Antimony, Total	mg/L	0.0000314	0.00132	0.10	0.0906	0.0872	0.0923	0.085 to 0.115	90.6	70 to 130	3.77	20
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12573	Arsenic, Total	mg/L	0.0000172	0.0022	0.10	0.103	0.0998	0.105	0.085 to 0.115	103	70 to 130	2.78	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12573	Cadmium, Total	mg/L	0.00000870	0.00044	0.10	0.0965	0.0955	0.0955	0.085 to 0.115	96.5	70 to 130	1.10	20
AX12573	Lead, Total	mg/L	0.0000281	0.0022	0.10	0.107	0.104	0.102	0.085 to 0.115	107	70 to 130	3.02	20
AX12573	Beryllium, Total	mg/L	0.0000212	0.00132	0.10	0.0935	0.0903	0.0999	0.085 to 0.115	93.5	70 to 130	3.49	20
AX12573	Cobalt, Total	mg/L	0.0000109	0.0044	0.10	0.0922	0.0879	0.0952	0.085 to 0.115	92.2	70 to 130	4.79	20
AX12573	Thallium, Total	mg/L	0.0000126	0.00044	0.10	0.106	0.103	0.102	0.085 to 0.115	106	70 to 130	3.39	20
AX12573	Barium, Total	mg/L	0.0000224	0.0044	0.10	0.0950	0.0887	0.0925	0.085 to 0.115	95.0	70 to 130	6.86	20
AX12573	Chromium, Total	mg/L	0.0000418	0.0044	0.10	0.102	0.0969	0.0988	0.085 to 0.115	102	70 to 130	4.97	20
AX12573	Molybdenum, Total	mg/L	0.0000127	0.0044	0.10	0.0882	0.0826	0.0860	0.085 to 0.115	88.2	70 to 130	6.57	20
AX12573	Selenium, Total	mg/L	0.0000422	0.0044	0.10	0.102	0.0956	0.102	0.085 to 0.115	102	70 to 130	6.15	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: WMWGORGE
 Sample Date: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX12573

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12601	Solids, Dissolved	mg/L	9.00	25			2850	59.0	40 to 60	0.697	5

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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
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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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX12574

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/6/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	J 0.00982	mg/L
* Beryllium, Total	JHK	6/6/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7	2		0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7	10		1.00	5	140	mg/L
* Cadmium, Total	JHK	6/6/2017	EPA 200.8	5		0.00020	0.001	0.00214	mg/L
* Antimony, Total	JHK	6/6/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	0.0465	mg/L
* Chromium, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7	2		0.01	0.05	J 0.0229	mg/L
* Molybdenum, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/6/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	J 0.00316	mg/L
* Thallium, Total	JHK	6/6/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/6/2017	SM 2540C	1			125	2240	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E	1		0.60	2.00	2.6	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C	1		0.032	0.10	0.13	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E	60		84.0	300	1400	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: WMWGORG
 Sample Date: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX12574

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX12577	Antimony, Total	mg/L	0.0000311	0.00132	0.10	0.0892	0.0903	0.0940	0.085 to 0.115	89.2	70 to 130	1.19	20
AX12577	Arsenic, Total	mg/L	0.0000175	0.0022	0.10	0.104	0.108	0.106	0.085 to 0.115	104	70 to 130	3.32	20
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12577	Cobalt, Total	mg/L	0.0000129	0.0044	0.10	0.0901	0.0923	0.0957	0.085 to 0.115	90.1	70 to 130	2.34	20
AX12577	Selenium, Total	mg/L	0.000108	0.0044	0.10	0.101	0.103	0.104	0.085 to 0.115	101	70 to 130	1.41	20
AX12577	Thallium, Total	mg/L	0.0000195	0.00044	0.10	0.108	0.105	0.103	0.085 to 0.115	108	70 to 130	3.04	20
AX12577	Cadmium, Total	mg/L	0.0000162	0.00044	0.10	0.0936	0.0953	0.0990	0.085 to 0.115	93.6	70 to 130	1.88	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12577	Chromium, Total	mg/L	0.0000341	0.0044	0.10	0.0998	0.104	0.102	0.085 to 0.115	99.8	70 to 130	4.29	20
AX12577	Lead, Total	mg/L	0.0000294	0.0022	0.10	0.108	0.105	0.104	0.085 to 0.115	108	70 to 130	3.07	20
AX12577	Molybdenum, Total	mg/L	0.0000139	0.0044	0.10	0.0900	0.0911	0.0888	0.085 to 0.115	90.0	70 to 130	1.22	20
AX12577	Barium, Total	mg/L	0.0000257	0.0044	0.10	0.102	0.103	0.0959	0.085 to 0.115	91.3	70 to 130	1.27	20
AX12577	Beryllium, Total	mg/L	0.0000310	0.00132	0.10	0.0909	0.0896	0.0969	0.085 to 0.115	90.9	70 to 130	1.37	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: 30-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX12574

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	Limit	
								Duplicate	LFB	Limit	Rec	Limit	Prec	Limit
AX12601	Solids, Dissolved	mg/L	9.00	25				2850	59.0	40 to 60			0.697	5

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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



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX12575

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/6/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	0.0126	mg/L
* Beryllium, Total	JHK	6/6/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	J 0.0234	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		10	1.00	5	151	mg/L
* Cadmium, Total	JHK	6/6/2017	EPA 200.8		5	0.00020	0.001	J 0.000212	mg/L
* Antimony, Total	JHK	6/6/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	0.0441	mg/L
* Chromium, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	J 0.0496	mg/L
* Molybdenum, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/6/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	6/6/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/8/2017	SM 2540C		1		100	1730	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		1	0.60	2.00	4.4	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	0.13	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		40	56.0	200	1100	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: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX12575

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB Limit	Rec		Prec	Limit	
			MB	Limit					Rec	Limit			
AX12577	Antimony, Total	mg/L	0.0000311	0.00132	0.10	0.0892	0.0903	0.0940	0.085 to 0.115	89.2	70 to 130	1.19	20
AX12577	Arsenic, Total	mg/L	0.0000175	0.0022	0.10	0.104	0.108	0.106	0.085 to 0.115	104	70 to 130	3.32	20
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12577	Cobalt, Total	mg/L	0.0000129	0.0044	0.10	0.0901	0.0923	0.0957	0.085 to 0.115	90.1	70 to 130	2.34	20
AX12577	Selenium, Total	mg/L	0.000108	0.0044	0.10	0.101	0.103	0.104	0.085 to 0.115	101	70 to 130	1.41	20
AX12577	Thallium, Total	mg/L	0.0000195	0.00044	0.10	0.108	0.105	0.103	0.085 to 0.115	108	70 to 130	3.04	20
AX12577	Cadmium, Total	mg/L	0.0000162	0.00044	0.10	0.0936	0.0953	0.0990	0.085 to 0.115	93.6	70 to 130	1.88	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12577	Chromium, Total	mg/L	0.0000341	0.0044	0.10	0.0998	0.104	0.102	0.085 to 0.115	99.8	70 to 130	4.29	20
AX12577	Lead, Total	mg/L	0.0000294	0.0022	0.10	0.108	0.105	0.104	0.085 to 0.115	108	70 to 130	3.07	20
AX12577	Molybdenum, Total	mg/L	0.0000139	0.0044	0.10	0.0900	0.0911	0.0888	0.085 to 0.115	90.0	70 to 130	1.22	20
AX12577	Barium, Total	mg/L	0.0000257	0.0044	0.10	0.102	0.103	0.0959	0.085 to 0.115	91.3	70 to 130	1.27	20
AX12577	Beryllium, Total	mg/L	0.0000310	0.00132	0.10	0.0909	0.0896	0.0969	0.085 to 0.115	90.9	70 to 130	1.37	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX12575

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12607	Solids, Dissolved	mg/L	-4.00	25			1270	57.0	40 to 60	2.42	5

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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: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX12576

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/6/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	J 0.00866	mg/L
* Beryllium, Total	JHK	6/6/2017	EPA 200.8		5	0.00060	0.003	0.00547	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7		2	0.02	0.1	J 0.0454	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7		10	1.00	5	306	mg/L
* Cadmium, Total	JHK	6/6/2017	EPA 200.8		5	0.00020	0.001	0.00296	mg/L
* Antimony, Total	JHK	6/6/2017	EPA 200.8		5	0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	0.225	mg/L
* Chromium, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1		1	0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7		2	0.01	0.05	0.218	mg/L
* Molybdenum, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/6/2017	EPA 200.8		5	0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/6/2017	EPA 200.8		5	0.0020	0.01	J 0.00632	mg/L
* Thallium, Total	JHK	6/6/2017	EPA 200.8		5	0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/8/2017	SM 2540C		1		250	3970	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E		1	0.60	2.00	J 1.5	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C		1	0.032	0.10	0.37	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E		100	140	500	2800	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: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX12576

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB	Rec		Prec	Limit	
			MB	Limit					Limit	Prec			
AX12577	Antimony, Total	mg/L	0.0000311	0.00132	0.10	0.0892	0.0903	0.0940	0.085 to 0.115	89.2	70 to 130	1.19	20
AX12577	Arsenic, Total	mg/L	0.0000175	0.0022	0.10	0.104	0.108	0.106	0.085 to 0.115	104	70 to 130	3.32	20
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12577	Cobalt, Total	mg/L	0.0000129	0.0044	0.10	0.0901	0.0923	0.0957	0.085 to 0.115	90.1	70 to 130	2.34	20
AX12577	Selenium, Total	mg/L	0.000108	0.0044	0.10	0.101	0.103	0.104	0.085 to 0.115	101	70 to 130	1.41	20
AX12577	Thallium, Total	mg/L	0.0000195	0.00044	0.10	0.108	0.105	0.103	0.085 to 0.115	108	70 to 130	3.04	20
AX12577	Barium, Total	mg/L	0.0000257	0.0044	0.10	0.102	0.103	0.0959	0.085 to 0.115	91.3	70 to 130	1.27	20
AX12577	Beryllium, Total	mg/L	0.0000310	0.00132	0.10	0.0909	0.0896	0.0969	0.085 to 0.115	90.9	70 to 130	1.37	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	20
AX12577	Cadmium, Total	mg/L	0.0000162	0.00044	0.10	0.0936	0.0953	0.0990	0.085 to 0.115	93.6	70 to 130	1.88	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12577	Chromium, Total	mg/L	0.0000341	0.0044	0.10	0.0998	0.104	0.102	0.085 to 0.115	99.8	70 to 130	4.29	20
AX12577	Lead, Total	mg/L	0.0000294	0.0022	0.10	0.108	0.105	0.104	0.085 to 0.115	108	70 to 130	3.07	20
AX12577	Molybdenum, Total	mg/L	0.0000139	0.0044	0.10	0.0900	0.0911	0.0888	0.085 to 0.115	90.0	70 to 130	1.22	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: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX12576

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12607	Solids, Dissolved	mg/L	-4.00	25			1270	57.0	40 to 60	2.42	5

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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
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 FAX (205) 257-1654

Certificate Of Analysis Alabama Power



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX12577

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Arsenic, Total	JHK	6/6/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Barium, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	0.0104	mg/L
* Beryllium, Total	JHK	6/6/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Boron, Total	HRG	6/9/2017	EPA 200.7	2		0.02	0.1	J 0.0392	mg/L
* Calcium, Total	HRG	6/9/2017	EPA 200.7	10		1.00	5	284	mg/L
* Cadmium, Total	JHK	6/6/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
* Antimony, Total	JHK	6/6/2017	EPA 200.8	5		0.00060	0.003	U Not Detected	mg/L
* Cobalt, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Chromium, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Mercury, Total by CVAA	ABB	6/9/2017	EPA 245.1	1		0.00025	0.0005	U Not Detected	mg/L
* Lithium, Total	HRG	6/9/2017	EPA 200.7	2		0.01	0.05	0.0501	mg/L
* Molybdenum, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Lead, Total	JHK	6/6/2017	EPA 200.8	5		0.0010	0.005	U Not Detected	mg/L
* Selenium, Total	JHK	6/6/2017	EPA 200.8	5		0.0020	0.01	U Not Detected	mg/L
* Thallium, Total	JHK	6/6/2017	EPA 200.8	5		0.00020	0.001	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	KRC	6/8/2017	SM 2540C	1			250	4210	mg/L
* Chloride, Total, by Test America	SGC	6/29/2017	SM 4500 Cl_E	1		0.60	2.00	2.1	mg/L
* Fluoride, Total, by Test America	SGC	6/29/2017	SM 4500 F_C	1		0.032	0.10	0.31	mg/L
* Sulfate, Total, by Test America	SGC	6/29/2017	SM 4500 SO4_E	100		140	500	2700	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
 Recovery for Calcium is out of spec.
 The spike amount was less than 30% of the sample amount.

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: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX12577

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			MB	Limit				Limit	Rec	Limit	Prec		
AX12577	Antimony, Total	mg/L	0.0000311	0.00132	0.10	0.0892	0.0903	0.0940	0.085 to 0.115	89.2	70 to 130	1.19	20
AX12577	Arsenic, Total	mg/L	0.0000175	0.0022	0.10	0.104	0.108	0.106	0.085 to 0.115	104	70 to 130	3.32	20
AX12577	Boron, Total	mg/L	-0.00111	0.044	1.00	0.994	1.01	0.907	0.85 to 1.15	95.5	70 to 130	1.88	20
AX12577	Cobalt, Total	mg/L	0.0000129	0.0044	0.10	0.0901	0.0923	0.0957	0.085 to 0.115	90.1	70 to 130	2.34	20
AX12577	Selenium, Total	mg/L	0.000108	0.0044	0.10	0.101	0.103	0.104	0.085 to 0.115	101	70 to 130	1.41	20
AX12577	Thallium, Total	mg/L	0.0000195	0.00044	0.10	0.108	0.105	0.103	0.085 to 0.115	108	70 to 130	3.04	20
AX12577	Cadmium, Total	mg/L	0.0000162	0.00044	0.10	0.0936	0.0953	0.0990	0.085 to 0.115	93.6	70 to 130	1.88	20
AX12577	Calcium, Total	mg/L	-0.0172	0.22	5.	296	299	4.63	4.25 to 5.75	240	70 to 130	1.01	20
AX12577	Chromium, Total	mg/L	0.0000341	0.0044	0.10	0.0998	0.104	0.102	0.085 to 0.115	99.8	70 to 130	4.29	20
AX12577	Lead, Total	mg/L	0.0000294	0.0022	0.10	0.108	0.105	0.104	0.085 to 0.115	108	70 to 130	3.07	20
AX12577	Molybdenum, Total	mg/L	0.0000139	0.0044	0.10	0.0900	0.0911	0.0888	0.085 to 0.115	90.0	70 to 130	1.22	20
AX12577	Barium, Total	mg/L	0.0000257	0.0044	0.10	0.102	0.103	0.0959	0.085 to 0.115	91.3	70 to 130	1.27	20
AX12577	Beryllium, Total	mg/L	0.0000310	0.00132	0.10	0.0909	0.0896	0.0969	0.085 to 0.115	90.9	70 to 130	1.37	20
AX12577	Lithium, Total	mg/L	-0.0000916	0.022	0.20	0.294	0.305	0.190	0.17 to 0.23	122	70 to 130	3.72	20
AX12577	Mercury, Total by CVAA	mg/L	0.0000111	0.0005	0.004	0.00375	0.00378	0.00374	0.0034 to 0.0046	93.7	70 to 130	0.996	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
 Recovery for Calcium is out of spec.
 The spike amount was less than 30% of the sample amount.

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



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 31-May-17
 Customer ID:
 Delivery Date: 01-Jun-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX12577

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX12607	Solids, Dissolved	mg/L	-4.00	25			1270	57.0	40 to 60	2.42	5

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
 Recovery for Calcium is out of spec.
 The spike amount was less than 30% of the sample amount.

CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
General Service Complex Building 8

- Field Complete
- Lab Complete

Lab ETA 06/01/2017 08:30

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Site Representative	Che George	Requested By	Greg Dyer
Collector	Ben Rothschild	Location	Gorgas Gypsum
Analysis Requested	Bottle 1 (500mL): Metals, Bottle 2 (250mL): Hg, Bottle 3 (500mL): TDS, Bottle 4 (250mL): Anions		
Comments	MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Jason Rouss located at Gorgas Landfill sample site. Jason Rouss SmarTroll ID 4696-23443-3-2 Turbidity ID 4677-23342-4-1. All anions were outsourced to TestAmerica Pensacola.		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-4	05/30/2017	10:50	4	Groundwater		AX12568
MW-4 DUP	05/30/2017	10:50	4	Sample Duplicate		AX12569
MW-3	05/30/2017	12:10	4	Groundwater		AX12570
MW-8	05/30/2017	13:44	4	Groundwater		AX12571
FB-1	05/30/2017	14:15	4	Field Blank		AX12572
EB-1	05/30/2017	14:20	4	Equipment Blank		AX12573
MW-1L*	05/30/2017	12:11	0	Groundwater		AX12574
MW-2L*	05/31/2017	09:06	0	Groundwater		AX12575
MW-3L*	05/31/2017	10:50	0	Groundwater		AX12576
MW-4L*	05/31/2017	12:28	0	Groundwater		AX12577

Relinquished By	Received By	Date/Time
<i>Ben Rothschild</i>	Keith Kornegay <small>Digitally signed by Keith Kornegay DN: cn=Keith Kornegay, o=Alabama Power Company, ou=Environmental Affairs, email=kkornegay@southernco.com, c=US Date: 2017.06.01 14:49:16 -0500</small>	06/01/2017 14:49

SmarTroll ID	5151-26193-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>	
Turbidity ID	3901-20010-2-2		
	Cooler Temp		1.3 degrees C
	Thermometer ID		5408-27568-2-2
	pH Strip ID	5521-28268-20-12	

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: 400-138811-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (8)

Client Project/Site: CCR Plant Gorgas

For:

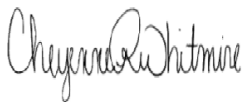
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

6/27/2017 7:38:07 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

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results through

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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: 400-138811-1
SDG: Gorgas Gypsum (8)

Job ID: 400-138811-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-138811-1

General Chemistry

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) RPD for batch 357755 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 356378 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: AX12568 MW-4 (400-138811-1), AX12569 MW-4 DUP (400-138811-2) and AX12570 MW-3 (400-138811-3). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 356536 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. Samples required a dilution, which may have diluted the spike

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: AX12570 MW-3 (400-138811-3), AX12571 MW-8 (400-138811-4), AX12571 MW-8 (400-138811-4[MS]), AX12571 MW-8 (400-138811-4[MSD]) and AX12574 MW-1L (400-138811-7). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 356862 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: 400-138811-1
SDG: Gorgas Gypsum (8)

Client Sample ID: AX12568 MW-4

Lab Sample ID: 400-138811-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	99		8.0	2.4	mg/L	4		SM 4500 Cl- E	Total/NA
Fluoride	0.49		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	530		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: AX12569 MW-4 DUP

Lab Sample ID: 400-138811-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	99		8.0	2.4	mg/L	4		SM 4500 Cl- E	Total/NA
Fluoride	0.51		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	510		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: AX12570 MW-3

Lab Sample ID: 400-138811-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310		20	6.0	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.38		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2900		600	170	mg/L	120		SM 4500 SO4 E	Total/NA

Client Sample ID: AX12571 MW-8

Lab Sample ID: 400-138811-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.16	F2	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1500	F1	300	84	mg/L	60		SM 4500 SO4 E	Total/NA

Client Sample ID: AX12572 FB-1

Lab Sample ID: 400-138811-5

No Detections.

Client Sample ID: AX12573 EB-1

Lab Sample ID: 400-138811-6

No Detections.

Client Sample ID: AX12574 MW-1L

Lab Sample ID: 400-138811-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		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

Client Sample ID: AX12575 MW-2L

Lab Sample ID: 400-138811-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.4		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1100		200	56	mg/L	40		SM 4500 SO4 E	Total/NA

Client Sample ID: AX12576 MW-3L

Lab Sample ID: 400-138811-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.5	J	2.0	0.60	mg/L	1		SM 4500 Cl- 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: 400-138811-1
SDG: Gorgas Gypsum (8)

Client Sample ID: AX12576 MW-3L (Continued)

Lab Sample ID: 400-138811-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.37		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: AX12577 MW-4L

Lab Sample ID: 400-138811-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.31		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2700		500	140	mg/L	100		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: 400-138811-1
SDG: Gorgas Gypsum (8)

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: 400-138811-1
SDG: Gorgas Gypsum (8)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-138811-1	AX12568 MW-4	Water	05/30/17 10:50	06/05/17 15:30
400-138811-2	AX12569 MW-4 DUP	Water	05/30/17 10:50	06/05/17 15:30
400-138811-3	AX12570 MW-3	Water	05/30/17 12:10	06/05/17 15:30
400-138811-4	AX12571 MW-8	Water	05/30/17 13:44	06/05/17 15:30
400-138811-5	AX12572 FB-1	Water	05/30/17 14:15	06/05/17 15:30
400-138811-6	AX12573 EB-1	Water	05/30/17 14:20	06/05/17 15:30
400-138811-7	AX12574 MW-1L	Water	05/30/17 12:11	06/05/17 15:30
400-138811-8	AX12575 MW-2L	Water	05/31/17 09:06	06/05/17 15:30
400-138811-9	AX12576 MW-3L	Water	05/31/17 10:50	06/05/17 15:30
400-138811-10	AX12577 MW-4L	Water	05/31/17 12:28	06/05/17 15:30



Client Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12568 MW-4

Lab Sample ID: 400-138811-1

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99		8.0	2.4	mg/L			06/08/17 16:05	4
Fluoride	0.49		0.10	0.032	mg/L			06/20/17 17:14	1
Sulfate	530		150	42	mg/L			06/13/17 18:38	30

Client Sample ID: AX12569 MW-4 DUP

Lab Sample ID: 400-138811-2

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99		8.0	2.4	mg/L			06/08/17 16:05	4
Fluoride	0.51		0.10	0.032	mg/L			06/20/17 17:17	1
Sulfate	510		150	42	mg/L			06/13/17 18:42	30

Client Sample ID: AX12570 MW-3

Lab Sample ID: 400-138811-3

Date Collected: 05/30/17 12:10

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310		20	6.0	mg/L			06/10/17 10:36	10
Fluoride	0.38		0.10	0.032	mg/L			06/20/17 17:19	1
Sulfate	2900		600	170	mg/L			06/10/17 14:24	120

Client Sample ID: AX12571 MW-8

Lab Sample ID: 400-138811-4

Date Collected: 05/30/17 13:44

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		2.0	0.60	mg/L			06/10/17 10:36	1
Fluoride	0.16	F2	0.10	0.032	mg/L			06/20/17 17:36	1
Sulfate	1500	F1	300	84	mg/L			06/10/17 14:24	60

Client Sample ID: AX12572 FB-1

Lab Sample ID: 400-138811-5

Date Collected: 05/30/17 14:15

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			06/10/17 10:36	1
Fluoride	<0.032		0.10	0.032	mg/L			06/20/17 17:22	1
Sulfate	<1.4		5.0	1.4	mg/L			06/10/17 13:14	1

Client Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12573 EB-1

Lab Sample ID: 400-138811-6

Date Collected: 05/30/17 14:20

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			06/10/17 10:36	1
Fluoride	<0.032		0.10	0.032	mg/L			06/20/17 17:25	1
Sulfate	<1.4		5.0	1.4	mg/L			06/10/17 13:14	1

Client Sample ID: AX12574 MW-1L

Lab Sample ID: 400-138811-7

Date Collected: 05/30/17 12:11

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.6		2.0	0.60	mg/L			06/10/17 10:36	1
Fluoride	0.13		0.10	0.032	mg/L			06/20/17 17:27	1
Sulfate	1400		300	84	mg/L			06/10/17 14:24	60

Client Sample ID: AX12575 MW-2L

Lab Sample ID: 400-138811-8

Date Collected: 05/31/17 09:06

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.4		2.0	0.60	mg/L			06/13/17 11:39	1
Fluoride	0.13		0.10	0.032	mg/L			06/20/17 17:29	1
Sulfate	1100		200	56	mg/L			06/13/17 18:34	40

Client Sample ID: AX12576 MW-3L

Lab Sample ID: 400-138811-9

Date Collected: 05/31/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.5	J	2.0	0.60	mg/L			06/13/17 11:39	1
Fluoride	0.37		0.10	0.032	mg/L			06/20/17 17:47	1
Sulfate	2800		500	140	mg/L			06/14/17 11:58	100

Client Sample ID: AX12577 MW-4L

Lab Sample ID: 400-138811-10

Date Collected: 05/31/17 12:28

Matrix: Water

Date Received: 06/05/17 15:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.1		2.0	0.60	mg/L			06/13/17 11:39	1
Fluoride	0.31		0.10	0.032	mg/L			06/20/17 17:52	1
Sulfate	2700		500	140	mg/L			06/14/17 11:58	100

Definitions/Glossary

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

TestAmerica Job ID: 400-138811-1
SDG: Gorgas Gypsum (8)

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
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: 400-138811-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12568 MW-4

Lab Sample ID: 400-138811-1

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		4	356378	06/08/17 16:05	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:14	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	356862	06/13/17 18:38	JLB	TAL PEN

Client Sample ID: AX12569 MW-4 DUP

Lab Sample ID: 400-138811-2

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		4	356378	06/08/17 16:05	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:17	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	356862	06/13/17 18:42	JLB	TAL PEN

Client Sample ID: AX12570 MW-3

Lab Sample ID: 400-138811-3

Date Collected: 05/30/17 12:10

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		10	356520	06/10/17 10:36	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:19	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		120	356536	06/10/17 14:24	JLB	TAL PEN

Client Sample ID: AX12571 MW-8

Lab Sample ID: 400-138811-4

Date Collected: 05/30/17 13:44

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356520	06/10/17 10:36	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:36	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	356536	06/10/17 14:24	JLB	TAL PEN

Client Sample ID: AX12572 FB-1

Lab Sample ID: 400-138811-5

Date Collected: 05/30/17 14:15

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356520	06/10/17 10:36	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:22	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	356536	06/10/17 13:14	JLB	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-138811-1
SDG: Gorgas Gypsum (8)

Client Sample ID: AX12573 EB-1

Lab Sample ID: 400-138811-6

Date Collected: 05/30/17 14:20

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356520	06/10/17 10:36	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:25	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	356536	06/10/17 13:14	JLB	TAL PEN

Client Sample ID: AX12574 MW-1L

Lab Sample ID: 400-138811-7

Date Collected: 05/30/17 12:11

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356520	06/10/17 10:36	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:27	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		60	356536	06/10/17 14:24	JLB	TAL PEN

Client Sample ID: AX12575 MW-2L

Lab Sample ID: 400-138811-8

Date Collected: 05/31/17 09:06

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356798	06/13/17 11:39	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:29	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		40	356862	06/13/17 18:34	JLB	TAL PEN

Client Sample ID: AX12576 MW-3L

Lab Sample ID: 400-138811-9

Date Collected: 05/31/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356798	06/13/17 11:39	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:47	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	356957	06/14/17 11:58	JLB	TAL PEN

Client Sample ID: AX12577 MW-4L

Lab Sample ID: 400-138811-10

Date Collected: 05/31/17 12:28

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	356798	06/13/17 11:39	JLB	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	357755	06/20/17 17:52	SLT	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		100	356957	06/14/17 11:58	JLB	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: 400-138811-1
 SDG: Gorgas Gypsum (8)

General Chemistry

Analysis Batch: 356378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-1	AX12568 MW-4	Total/NA	Water	SM 4500 Cl- E	
400-138811-2	AX12569 MW-4 DUP	Total/NA	Water	SM 4500 Cl- E	
MB 400-356378/34	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-356378/43	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-356378/31	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-138437-C-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-138437-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 356520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-3	AX12570 MW-3	Total/NA	Water	SM 4500 Cl- E	
400-138811-4	AX12571 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-138811-5	AX12572 FB-1	Total/NA	Water	SM 4500 Cl- E	
400-138811-6	AX12573 EB-1	Total/NA	Water	SM 4500 Cl- E	
400-138811-7	AX12574 MW-1L	Total/NA	Water	SM 4500 Cl- E	
MB 400-356520/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-356520/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-356520/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-138811-4 MS	AX12571 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-138811-4 MSD	AX12571 MW-8	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 356536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-3	AX12570 MW-3	Total/NA	Water	SM 4500 SO4 E	
400-138811-4	AX12571 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-138811-5	AX12572 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-138811-6	AX12573 EB-1	Total/NA	Water	SM 4500 SO4 E	
400-138811-7	AX12574 MW-1L	Total/NA	Water	SM 4500 SO4 E	
MB 400-356536/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-356536/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-356536/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-138811-4 MS	AX12571 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-138811-4 MSD	AX12571 MW-8	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 356798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-8	AX12575 MW-2L	Total/NA	Water	SM 4500 Cl- E	
400-138811-9	AX12576 MW-3L	Total/NA	Water	SM 4500 Cl- E	
400-138811-10	AX12577 MW-4L	Total/NA	Water	SM 4500 Cl- E	
MB 400-356798/28	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-356798/29	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-356798/25	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-138811-A-14 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-138811-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 356862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-1	AX12568 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-138811-2	AX12569 MW-4 DUP	Total/NA	Water	SM 4500 SO4 E	
400-138811-8	AX12575 MW-2L	Total/NA	Water	SM 4500 SO4 E	
MB 400-356862/6	Method Blank	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: 400-138811-1
 SDG: Gorgas Gypsum (8)

General Chemistry (Continued)

Analysis Batch: 356862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-356862/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-356862/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-138811-A-14 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-138811-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 356957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-9	AX12576 MW-3L	Total/NA	Water	SM 4500 SO4 E	
400-138811-10	AX12577 MW-4L	Total/NA	Water	SM 4500 SO4 E	
MB 400-356957/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-356957/37	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-356957/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-138927-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-138927-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 357755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138811-1	AX12568 MW-4	Total/NA	Water	SM 4500 F C	
400-138811-2	AX12569 MW-4 DUP	Total/NA	Water	SM 4500 F C	
400-138811-3	AX12570 MW-3	Total/NA	Water	SM 4500 F C	
400-138811-4	AX12571 MW-8	Total/NA	Water	SM 4500 F C	
400-138811-5	AX12572 FB-1	Total/NA	Water	SM 4500 F C	
400-138811-6	AX12573 EB-1	Total/NA	Water	SM 4500 F C	
400-138811-7	AX12574 MW-1L	Total/NA	Water	SM 4500 F C	
400-138811-8	AX12575 MW-2L	Total/NA	Water	SM 4500 F C	
400-138811-9	AX12576 MW-3L	Total/NA	Water	SM 4500 F C	
400-138811-10	AX12577 MW-4L	Total/NA	Water	SM 4500 F C	
MB 400-357755/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-357755/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-138811-4 MS	AX12571 MW-8	Total/NA	Water	SM 4500 F C	
400-138811-4 MSD	AX12571 MW-8	Total/NA	Water	SM 4500 F C	
400-138811-9 DU	AX12576 MW-3L	Total/NA	Water	SM 4500 F C	

QC Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-356378/34
Matrix: Water
Analysis Batch: 356378

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			06/08/17 15:26	1

Lab Sample ID: LCS 400-356378/43
Matrix: Water
Analysis Batch: 356378

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	32.1		mg/L		107	90 - 110

Lab Sample ID: MRL 400-356378/31
Matrix: Water
Analysis Batch: 356378

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	2.20		mg/L		110	50 - 150

Lab Sample ID: 400-138437-C-1 MS
Matrix: Water
Analysis Batch: 356378

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	3.7	F1	10.0	16.6	F1	mg/L		129	73 - 120

Lab Sample ID: 400-138437-C-1 MSD
Matrix: Water
Analysis Batch: 356378

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	3.7	F1	10.0	16.2	F1	mg/L		124	73 - 120	3	8

Lab Sample ID: MB 400-356520/6
Matrix: Water
Analysis Batch: 356520

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			06/10/17 09:11	1

Lab Sample ID: LCS 400-356520/7
Matrix: Water
Analysis Batch: 356520

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	27.5		mg/L		92	90 - 110

Lab Sample ID: MRL 400-356520/13
Matrix: Water
Analysis Batch: 356520

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	1.61	J	mg/L		80	50 - 150

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Lab Sample ID: 400-138811-4 MS
Matrix: Water
Analysis Batch: 356520

Client Sample ID: AX12571 MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	15		10.0	25.1		mg/L		106	73 - 120

Lab Sample ID: 400-138811-4 MSD
Matrix: Water
Analysis Batch: 356520

Client Sample ID: AX12571 MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	15		10.0	25.2		mg/L		107	73 - 120	0	8

Lab Sample ID: MB 400-356798/28
Matrix: Water
Analysis Batch: 356798

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			06/13/17 11:42	1

Lab Sample ID: LCS 400-356798/29
Matrix: Water
Analysis Batch: 356798

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	32.3		mg/L		108	90 - 110

Lab Sample ID: MRL 400-356798/25
Matrix: Water
Analysis Batch: 356798

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	2.05		mg/L		102	50 - 150

Lab Sample ID: 400-138811-A-14 MS
Matrix: Water
Analysis Batch: 356798

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	3.2		10.0	14.8		mg/L		115	73 - 120

Lab Sample ID: 400-138811-A-14 MSD
Matrix: Water
Analysis Batch: 356798

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	3.2		10.0	14.9		mg/L		117	73 - 120	1	8

QC Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-357755/3
Matrix: Water
Analysis Batch: 357755

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			06/20/17 16:58	1

Lab Sample ID: LCS 400-357755/4
Matrix: Water
Analysis Batch: 357755

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: 400-138811-4 MS
Matrix: Water
Analysis Batch: 357755

Client Sample ID: AX12571 MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.16	F2	1.00	1.04		mg/L		88	75 - 125

Lab Sample ID: 400-138811-4 MSD
Matrix: Water
Analysis Batch: 357755

Client Sample ID: AX12571 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
Fluoride	0.16	F2	1.00	1.10	F2	mg/L		95	75 - 125	6	4

Lab Sample ID: 400-138811-9 DU
Matrix: Water
Analysis Batch: 357755

Client Sample ID: AX12576 MW-3L
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.37		0.368		mg/L		0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-356536/6
Matrix: Water
Analysis Batch: 356536

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			06/10/17 12:58	1

Lab Sample ID: LCS 400-356536/7
Matrix: Water
Analysis Batch: 356536

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	15.0		mg/L		100	90 - 110

QC Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-356536/3
Matrix: Water
Analysis Batch: 356536

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	4.19	J	mg/L		84	50 - 150

Lab Sample ID: 400-138811-4 MS
Matrix: Water
Analysis Batch: 356536

Client Sample ID: AX12571 MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1500	F1	600	1370	F1	mg/L		-17	77 - 128

Lab Sample ID: 400-138811-4 MSD
Matrix: Water
Analysis Batch: 356536

Client Sample ID: AX12571 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
Sulfate	1500	F1	600	1370	F1	mg/L		-16	77 - 128	0	5

Lab Sample ID: MB 400-356862/6
Matrix: Water
Analysis Batch: 356862

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			06/13/17 17:52	1

Lab Sample ID: LCS 400-356862/7
Matrix: Water
Analysis Batch: 356862

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	15.4		mg/L		102	90 - 110

Lab Sample ID: MRL 400-356862/3
Matrix: Water
Analysis Batch: 356862

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	4.48	J	mg/L		90	50 - 150

Lab Sample ID: 400-138811-A-14 MS
Matrix: Water
Analysis Batch: 356862

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
Sulfate	700	F1	400	616	F1	mg/L		-21	77 - 128

Lab Sample ID: 400-138811-A-14 MSD
Matrix: Water
Analysis Batch: 356862

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
Sulfate	700	F1	400	598	F1	mg/L		-25	77 - 128	3	5

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

Lab Sample ID: MB 400-356957/6
Matrix: Water
Analysis Batch: 356957

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			06/14/17 11:24	1

Lab Sample ID: LCS 400-356957/37
Matrix: Water
Analysis Batch: 356957

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	16.0		mg/L		107	90 - 110

Lab Sample ID: MRL 400-356957/3
Matrix: Water
Analysis Batch: 356957

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	4.91	J	mg/L		98	50 - 150

Lab Sample ID: 400-138927-A-1 MS
Matrix: Water
Analysis Batch: 356957

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
Sulfate	4.7	J	10.0	13.1		mg/L		84	77 - 128

Lab Sample ID: 400-138927-A-1 MSD
Matrix: Water
Analysis Batch: 356957

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
Sulfate	4.7	J	10.0	13.1		mg/L		84	77 - 128	0	5

TestAmerica Pensacola
 3355 McLemore Drive
 Pensacola, FL 32514
 Phone (850) 474-1001 Fax (850) 478-2671

Chain of Custody Record

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Client Information		Lab Pk: Whitmire, Cheyenne R		Carrier Tracking No(s):	
Client Contact: Ben Rothschild		E-Mail: cheyenne.whitmire@testamericainc.com			
Company: Alabama Power General Test Laboratory		Due Date Requested:		Analysis Requested	
Address: 744 County Rd 87 GSC #8		TAT Requested (days): Routine		Total Number of Containers	
City: Callera		PO #:		400-138811 COC	
State, Zip: AL, 35040		WO #:			
Phone: 205-664-6121 (Tel)		Project #:			
Email: sgcopelia@southernco.com		SSOW#: 40007143			
Site: Gorgas Gypsum (8)					

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Soil, Overhead, etc - Please Advise)	Preservation Code	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SM 4500 F.C	SM 4500 C.E	SM 4500 S.O4.E	Special Instructions/Note:
						Field Filtered	MS/MSD	Field Filtered	MS/MSD				
AX12568	5/30/17	1050	G	Water		X	X	X	X	X	X	X	MW-4
AX12569	5/30/17	1050	G	Water		X	X	X	X	X	X	X	MW-4 Dup (Sample Duplicate)
AX12570	5/30/17	1210	G	Water		X	X	X	X	X	X	X	MW-3
AX12571	5/30/17	1344	G	Water		X	X	X	X	X	X	X	MW-8
AX12572	5/30/17	1415	G	Water		X	X	X	X	X	X	X	FB-1 (Field Blank)
AX12573	5/30/17	1420	G	Water		X	X	X	X	X	X	X	EB-1 (Equipment Blank)
AX12574	5/30/17	1211	G	Water		X	X	X	X	X	X	X	MW-1L
AX12575	5/31/17	0906	G	Water		X	X	X	X	X	X	X	MW-2L
AX12576	5/31/17	1050	G	Water		X	X	X	X	X	X	X	MW-3L
AX12577	5/31/17	1228	G	Water		X	X	X	X	X	X	X	MW-4L

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: 06/05/2017; 1615 Company APC
 Relinquished by: _____ Date/Time: _____ Company
 Relinquished by: _____ Date/Time: _____ Company
 Custody Seals Intact: Custody Seal No. _____
 Δ Yes Δ No

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/OC Requirements:

Method of Shipment: _____
 Received by: _____ Date/Time: 6/5/17 1530 Company
 Received by: _____ Date/Time: _____ Company
 Received by: _____ Date/Time: _____ Company
 Cooler Temperature(s) °C and Other Remarks:



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-138811-1
SDG Number: Gorgas Gypsum (8)

Login Number: 138811

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	23.0°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	



Accreditation/Certification Summary

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

TestAmerica Job ID: 400-138811-1
 SDG: Gorgas Gypsum (8)

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	06-30-17
Arizona	State Program	9	AZ0710	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
California	ELAP	9	2510	03-31-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-17
Illinois	NELAP	5	200041	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17
Michigan	State Program	5	9912	06-30-17
New Jersey	NELAP	2	FL006	06-30-17
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17
Tennessee	State Program	4	TN02907	06-30-17
Texas	NELAP	6	T104704286-16-10	09-30-17
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	06-30-17

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-138820-1

TestAmerica Sample Delivery Group: Gorgas Gypsum (8)

Client Project/Site: CCR Plant Gorgas

For:

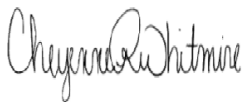
Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

7/7/2017 4:37:41 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

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: 400-138820-1
SDG: Gorgas Gypsum (8)

Job ID: 400-138820-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-138820-1

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-312852. The following samples were reduced due to limited volume: AX12578 MW-4 (400-138820-1), AX12579 MW-4 DUP (400-138820-2), AX12580 MW-3 (400-138820-3), AX12580 MW-3 (400-138820-3[DU]), AX12581 MW-8 (400-138820-4), AX12582 FB-1 (400-138820-5), AX12583 EB-1 (400-138820-6), AX12585 MW-2L (400-138820-8), AX12586 MW-3L (400-138820-9) and AX12587 MW-4L (400-138820-10).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-312823. The following samples were reduced due to limited volume: AX12578 MW-4 (400-138820-1), AX12579 MW-4 DUP (400-138820-2), AX12580 MW-3 (400-138820-3), AX12580 MW-3 (400-138820-3[DU]), AX12581 MW-8 (400-138820-4), AX12582 FB-1 (400-138820-5), AX12583 EB-1 (400-138820-6), AX12584 MW-1L (400-138820-7), AX12585 MW-2L (400-138820-8), AX12586 MW-3L (400-138820-9) and AX12587 MW-4L (400-138820-10).

Method Summary

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

TestAmerica Job ID: 400-138820-1
SDG: Gorgas Gypsum (8)

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: 400-138820-1
SDG: Gorgas Gypsum (8)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-138820-1	AX12578 MW-4	Water	05/30/17 10:50	06/05/17 15:30
400-138820-2	AX12579 MW-4 DUP	Water	05/30/17 10:50	06/05/17 15:30
400-138820-3	AX12580 MW-3	Water	05/30/17 12:10	06/05/17 15:30
400-138820-4	AX12581 MW-8	Water	05/30/17 13:44	06/05/17 15:30
400-138820-5	AX12582 FB-1	Water	05/30/17 14:15	06/05/17 15:30
400-138820-6	AX12583 EB-1	Water	05/30/17 14:20	06/05/17 15:30
400-138820-7	AX12584 MW-1L	Water	05/30/17 12:11	06/05/17 15:30
400-138820-8	AX12585 MW-2L	Water	05/31/17 09:06	06/05/17 15:30
400-138820-9	AX12586 MW-3L	Water	05/31/17 10:50	06/05/17 15:30
400-138820-10	AX12587 MW-4L	Water	05/31/17 12:28	06/05/17 15:30



Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12578 MW-4

Lab Sample ID: 400-138820-1

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.0852	0.0857	1.00	0.123	pCi/L	06/09/17 10:40	07/03/17 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					06/09/17 10:40	07/03/17 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.816		0.314	0.322	1.00	0.433	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.8		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	89.3		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.925		0.325	0.334	5.00	0.433	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12579 MW-4 DUP

Lab Sample ID: 400-138820-2

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.206		0.101	0.103	1.00	0.113	pCi/L	06/09/17 10:40	07/03/17 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					06/09/17 10:40	07/03/17 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.729		0.322	0.329	1.00	0.460	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	85.6		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.935		0.337	0.344	5.00	0.460	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12580 MW-3

Lab Sample ID: 400-138820-3

Date Collected: 05/30/17 12:10

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.101	U	0.0810	0.0815	1.00	0.117	pCi/L	06/09/17 10:40	07/03/17 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/09/17 10:40	07/03/17 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.623		0.277	0.283	1.00	0.384	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	84.9		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.724		0.288	0.294	5.00	0.384	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12581 MW-8

Lab Sample ID: 400-138820-4

Date Collected: 05/30/17 13:44

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0373	U	0.0730	0.0731	1.00	0.133	pCi/L	06/09/17 10:40	07/03/17 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					06/09/17 10:40	07/03/17 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.374	U	0.299	0.301	1.00	0.473	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	83.4		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.412	U	0.308	0.310	5.00	0.473	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12582 FB-1

Lab Sample ID: 400-138820-5

Date Collected: 05/30/17 14:15

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0568	U	0.0641	0.0643	1.00	0.102	pCi/L	06/09/17 10:40	07/03/17 07:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/09/17 10:40	07/03/17 07:06	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.136	U	0.246	0.247	1.00	0.420	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	84.9		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.192	U	0.255	0.255	5.00	0.420	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12583 EB-1

Lab Sample ID: 400-138820-6

Date Collected: 05/30/17 14:20

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0338	U	0.0526	0.0527	1.00	0.129	pCi/L	06/09/17 10:40	07/03/17 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					06/09/17 10:40	07/03/17 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0550	U	0.210	0.210	1.00	0.393	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	90.8		40 - 110					06/09/17 12:20	06/20/17 11:05	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	-0.0889	U	0.216	0.217	5.00	0.393	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12584 MW-1L

Lab Sample ID: 400-138820-7

Date Collected: 05/30/17 12:11

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.109	U	0.0856	0.0862	1.00	0.124	pCi/L	06/09/17 10:40	07/03/17 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					06/09/17 10:40	07/03/17 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0397	U	0.228	0.228	1.00	0.407	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	85.2		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.149	U	0.243	0.243	5.00	0.407	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12585 MW-2L

Lab Sample ID: 400-138820-8

Date Collected: 05/31/17 09:06

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0460	U	0.0614	0.0616	1.00	0.103	pCi/L	06/09/17 10:40	07/03/17 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/09/17 10:40	07/03/17 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.132	U	0.270	0.271	1.00	0.464	pCi/L	06/09/17 12:20	06/20/17 11:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.4		40 - 110					06/09/17 12:20	06/20/17 11:05	1
Y Carrier	84.1		40 - 110					06/09/17 12:20	06/20/17 11:05	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	0.178	U	0.277	0.278	5.00	0.464	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12586 MW-3L

Lab Sample ID: 400-138820-9

Date Collected: 05/31/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178		0.0956	0.0970	1.00	0.112	pCi/L	06/09/17 10:40	07/03/17 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					06/09/17 10:40	07/03/17 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.622		0.330	0.335	1.00	0.492	pCi/L	06/09/17 12:20	06/20/17 11:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110					06/09/17 12:20	06/20/17 11:06	1
Y Carrier	88.2		40 - 110					06/09/17 12:20	06/20/17 11:06	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	0.800		0.344	0.349	5.00	0.492	pCi/L		07/05/17 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12587 MW-4L

Lab Sample ID: 400-138820-10

Date Collected: 05/31/17 12:28

Matrix: Water

Date Received: 06/05/17 15:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.115	U	0.0872	0.0878	1.00	0.124	pCi/L	06/09/17 10:40	07/03/17 07:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					06/09/17 10:40	07/03/17 07:07	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.186	U	0.272	0.272	1.00	0.456	pCi/L	06/09/17 12:20	06/20/17 11:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		40 - 110					06/09/17 12:20	06/20/17 11:06	1
Y Carrier	86.4		40 - 110					06/09/17 12:20	06/20/17 11:06	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	0.300	U	0.286	0.286	5.00	0.456	pCi/L		07/05/17 16:51	1

Definitions/Glossary

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

TestAmerica Job ID: 400-138820-1
SDG: Gorgas Gypsum (8)

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: 400-138820-1
 SDG: Gorgas Gypsum (8)

Client Sample ID: AX12578 MW-4

Lab Sample ID: 400-138820-1

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:06	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12579 MW-4 DUP

Lab Sample ID: 400-138820-2

Date Collected: 05/30/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:06	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12580 MW-3

Lab Sample ID: 400-138820-3

Date Collected: 05/30/17 12:10

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:06	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12581 MW-8

Lab Sample ID: 400-138820-4

Date Collected: 05/30/17 13:44

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:06	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-138820-1
SDG: Gorgas Gypsum (8)

Client Sample ID: AX12582 FB-1

Lab Sample ID: 400-138820-5

Date Collected: 05/30/17 14:15

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:06	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12583 EB-1

Lab Sample ID: 400-138820-6

Date Collected: 05/30/17 14:20

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:07	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12584 MW-1L

Lab Sample ID: 400-138820-7

Date Collected: 05/30/17 12:11

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:07	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12585 MW-2L

Lab Sample ID: 400-138820-8

Date Collected: 05/31/17 09:06

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:07	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:05	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-138820-1
SDG: Gorgas Gypsum (8)

Client Sample ID: AX12586 MW-3L

Lab Sample ID: 400-138820-9

Date Collected: 05/31/17 10:50

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:07	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:06	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	RTM	TAL SL

Client Sample ID: AX12587 MW-4L

Lab Sample ID: 400-138820-10

Date Collected: 05/31/17 12:28

Matrix: Water

Date Received: 06/05/17 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			312823	06/09/17 10:40	LDE	TAL SL
Total/NA	Analysis	9315		1	10664	07/03/17 07:07	ALD	TAL SL
Total/NA	Prep	PrecSep_0			312852	06/09/17 12:20	LDE	TAL SL
Total/NA	Analysis	9320		1	314195	06/20/17 11:06	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	316322	07/05/17 16:51	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: 400-138820-1
 SDG: Gorgas Gypsum (8)

Rad

Prep Batch: 312823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138820-1	AX12578 MW-4	Total/NA	Water	PrecSep-21	
400-138820-2	AX12579 MW-4 DUP	Total/NA	Water	PrecSep-21	
400-138820-3	AX12580 MW-3	Total/NA	Water	PrecSep-21	
400-138820-4	AX12581 MW-8	Total/NA	Water	PrecSep-21	
400-138820-5	AX12582 FB-1	Total/NA	Water	PrecSep-21	
400-138820-6	AX12583 EB-1	Total/NA	Water	PrecSep-21	
400-138820-7	AX12584 MW-1L	Total/NA	Water	PrecSep-21	
400-138820-8	AX12585 MW-2L	Total/NA	Water	PrecSep-21	
400-138820-9	AX12586 MW-3L	Total/NA	Water	PrecSep-21	
400-138820-10	AX12587 MW-4L	Total/NA	Water	PrecSep-21	
MB 160-312823/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-312823/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-138820-3 DU	AX12580 MW-3	Total/NA	Water	PrecSep-21	

Prep Batch: 312852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-138820-1	AX12578 MW-4	Total/NA	Water	PrecSep_0	
400-138820-2	AX12579 MW-4 DUP	Total/NA	Water	PrecSep_0	
400-138820-3	AX12580 MW-3	Total/NA	Water	PrecSep_0	
400-138820-4	AX12581 MW-8	Total/NA	Water	PrecSep_0	
400-138820-5	AX12582 FB-1	Total/NA	Water	PrecSep_0	
400-138820-6	AX12583 EB-1	Total/NA	Water	PrecSep_0	
400-138820-7	AX12584 MW-1L	Total/NA	Water	PrecSep_0	
400-138820-8	AX12585 MW-2L	Total/NA	Water	PrecSep_0	
400-138820-9	AX12586 MW-3L	Total/NA	Water	PrecSep_0	
400-138820-10	AX12587 MW-4L	Total/NA	Water	PrecSep_0	
MB 160-312852/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-312852/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-138820-3 DU	AX12580 MW-3	Total/NA	Water	PrecSep_0	

QC Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-312823/1-A
Matrix: Water
Analysis Batch: 10664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312823

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04258	U	0.0588	0.0589	1.00	0.0991	pCi/L	06/09/17 10:40	07/03/17 07:05	1
Carrier	MB MB		Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier	Limits							
Ba Carrier	93.2		40 - 110		06/09/17 10:40	07/03/17 07:05	1			

Lab Sample ID: LCS 160-312823/2-A
Matrix: Water
Analysis Batch: 10664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312823

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	15.1	12.73		1.33	1.00	0.106	pCi/L	84	68 - 137
Carrier	LCS LCS		Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	%Yield	Qualifier	Limits						
Ba Carrier	95.0		40 - 110						

Lab Sample ID: 400-138820-3 DU
Matrix: Water
Analysis Batch: 10664

Client Sample ID: AX12580 MW-3
Prep Type: Total/NA
Prep Batch: 312823

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-226	0.101	U	-0.01157	U	0.0498	1.00	0.115	pCi/L	0.86	1
Carrier	DU DU		Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier	Limits							
Ba Carrier	94.4		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-312852/1-A
Matrix: Water
Analysis Batch: 314195

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312852

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2126	U	0.269	0.270	1.00	0.446	pCi/L	06/09/17 12:20	06/20/17 11:04	1
Carrier	MB MB		Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	%Yield	Qualifier	Limits							
Ba Carrier	93.2		40 - 110		06/09/17 12:20	06/20/17 11:04	1			
Y Carrier	MB MB		Limits		Prepared	Analyzed	Dil Fac			
Y Carrier	%Yield	Qualifier	Limits							
Y Carrier	87.5		40 - 110		06/09/17 12:20	06/20/17 11:04	1			

QC Sample Results

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

TestAmerica Job ID: 400-138820-1
 SDG: Gorgas Gypsum (8)

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

Lab Sample ID: LCS 160-312852/2-A
Matrix: Water
Analysis Batch: 314195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312852

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	17.7	20.86		2.20	1.00	0.437	pCi/L	118	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	95.0		40 - 110
Y Carrier	86.7		40 - 110

Lab Sample ID: 400-138820-3 DU
Matrix: Water
Analysis Batch: 314195

Client Sample ID: AX12580 MW-3
Prep Type: Total/NA
Prep Batch: 312852

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.623		0.3170	U	0.262	1.00	0.411	pCi/L	0.56	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	94.4		40 - 110
Y Carrier	85.2		40 - 110

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Lab Sample ID: 400-138820-3 DU
Matrix: Water
Analysis Batch: 316322

Client Sample ID: AX12580 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	0.724		0.3054	U	0.267	5.00	0.411	pCi/L	0.75	

Lab Sample ID: 400-138820-A-11 DU
Matrix: Water
Analysis Batch: 316322

Client Sample ID: Duplicate
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	0.998		0.5832		0.373	5.00	0.578	pCi/L	0.60	

Chain of Custody Record

Client Information
 Client Contact: Ben Rofschad
 Client Address: 744 County Rd 87 GSC #8
 City: Calera
 State, Zip: AL, 35040
 Phone: 205-664-6121(Tel)
 Email: sgcopela@southernco.com
 Project Name: CCR
 Site: Gorgas Gypsum (8)

Lab PII: Whitmire, Chyenne R
Carrier Tracking No(s):
Lab PI: Whitmire, Chyenne R
E-Mail: chyenne.whitmire@testamericainc.com

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: sgcopela@southernco.com
Project Name: CCR
Site: Gorgas Gypsum (8)

Due Date Requested:
TAT Requested (days): Routine
PO #:
WO #:
Project #: 40007143
SSOW#:

Sample Identification
 AX12578
 AX12579
 AX12580
 AX12581
 AX12582
 AX12583
 AX12584
 AX12585
 AX12586
 AX12587

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Matrix (Water, Soil, On-site, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Note:
AX12578	5/30/17	1050	G		Water	X	X	1	MW-4
AX12579	5/30/17	1050	G		Water	X	X	1	MW-4 Dup (Sample Duplicate)
AX12580	5/30/17	1210	G		Water	Y	X	3	MW-3
AX12581	5/30/17	1344	G		Water	X	X	1	MW-8
AX12582	5/30/17	1415	G		Water	X	X	1	FB-1 (Field Blank)
AX12583	5/30/17	1420	G		Water	X	X	1	EB-1 (Equipment Blank)
AX12584	5/30/17	1211	G		Water	X	X	0	MW-1L
AX12585	5/31/17	0906	G		Water	X	X	0	MW-2L
AX12586	5/31/17	1050	G		Water	X	X	0	MW-3L
AX12587	5/31/17	1228	G		Water	X	X	0	MW-4L



Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by:
 Relinquished by: Sarah Copeland
 Date/Time: 06/05/2017, 1700
 Company: APC

Relinquished by:
 Date/Time:
 Company:

Relinquished by:
 Date/Time:
 Company:

Custody Seals Intact: Custody Seal No.:
 Δ Yes Δ No

Received by: *[Signature]*
 Date/Time: 6/5/17 1530
 Company: *[Signature]*



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-138820-1
SDG Number: Gorgas Gypsum (8)

Login Number: 138820

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	Thermal preservation not required.
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: 400-138820-1
 SDG: Gorgas Gypsum (8)

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	01-11-18
Arkansas DEQ	State Program	6	88-0689	09-01-17
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	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-17 *
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
Maryland	State Program	3	233	09-30-17
Massachusetts	State Program	1	M-FL094	06-30-17 *
Michigan	State Program	5	9912	06-30-17 *
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-17
Oklahoma	State Program	6	9810	08-31-17
Pennsylvania	NELAP	3	68-00467	01-31-18
Rhode Island	State Program	1	LAO00307	12-30-17
South Carolina	State Program	4	96026	06-30-17 *
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-16-10	09-30-17
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
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	11-30-17
Iowa	State Program	7	373	02-01-18
Kansas	NELAP	7	E-10236	10-31-17
Kentucky (DW)	State Program	4	90125	12-31-17
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA170011	12-31-17
Maryland	State Program	3	310	09-30-17 *
Missouri	State Program	7	780	06-30-17 *
Nevada	State Program	9	MO000542017-1	07-31-17 *
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: 400-138820-1
SDG: Gorgas Gypsum (8)

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	06-30-17 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-17 *
Pennsylvania	NELAP	3	68-00540	02-21-18
South Carolina	State Program	4	85002001	06-30-17 *
Texas	NELAP	6	T104704193-16-10	07-31-17 *
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-17 *
Virginia	NELAP	3	460230	06-14-18
Washington	State Program	10	C592	08-30-17 *
West Virginia DEP	State Program	3	381	08-31-17 *

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

TestAmerica Pensacola



Chain of Custody Groundwater

APC General Testing Laboratory
General Service Complex Building 8

- Field Complete
- Lab Complete

Lab ETA 06/01/2017 08:30

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Site Representative	Che George	Requested By	Greg Dyer
Collector	Ben Rothschild	Location	Gorgas Gypsum
Analysis Requested	Bottle 1 (1L): Radiological		
Comments	MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Jason Rouss located at Gorgas Landfill sample site. Jason Rouss SmarTroll ID 4696-23443-3-2 Turbidity ID 4677-23342-4-1 Radium Duplicate collected at MW-3. No temperature preservation required for Radium.		

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-4	05/30/2017	10:50	1	Groundwater		AX12578
MW-4 DUP	05/30/2017	10:50	1	Sample Duplicate		AX12579
MW-3	05/30/2017	12:10	3	Groundwater		AX12580
MW-8	05/30/2017	13:44	1	Groundwater		AX12581
FB-1	05/30/2017	14:15	1	Field Blank		AX12582
EB-1	05/30/2017	14:20	1	Equipment Blank		AX12583
MW-1L*	05/30/2017	12:11	0	Groundwater		AX12584
MW-2L*	05/31/2017	09:06	0	Groundwater		AX12585
MW-3L*	05/31/2017	10:50	0	Groundwater		AX12586
MW-4L*	05/31/2017	12:28	0	Groundwater		AX12587

Relinquished By	Received By	Date/Time
	Keith Kornegay <small>Digitally signed by Keith Kornegay DN: cn=Keith Kornegay, o=Alabama Power Company, ou=Environmental Affairs, email=kkornegay@southernco.com, c=US Date: 2017.06.01 14:41:54 -0500</small>	06/01/2017 14:42

SmarTroll ID	5151-26193-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20010-2-2	Cooler Temp
		NA
		Thermometer ID
		NA
		pH Strip ID
		5521-28268-20-12

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

 Alabama Power



Sample Group : WMWGORG_1111

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:

Supervision:



Anions

Gorgas Gypsum

WMWGORG_1111

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 anions were outsourced to Test America, Pensacola, for analysis. Listed below is the job narrative provided by Test America.

Job Narrative
400-142502-2
General Chemistry

Method(s) SM 4500 F C: The method blank for analytical batch 367655 contained Fluoride above the method detection limit (MDL) but at the reporting limit (RL). This target analyte concentration was less than the project-specific action limit; therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 367128 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: AX20132 MW-3 (400-142502-11), AX20133 MW-8 (400-142502-12), AX20133 MW-8 (400-142502-12[MS]), AX20133 MW-8 (400-142502-12[MSD]), AX20135 MW-4 (400-142502-14), AX20136 MW-4DUP (400-142502-15), (400-142502-A-15 MS) and (400-142502-A-15 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 367158 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 367463 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: AX20138 MW-1L (400-142502-7), AX20139 MW-2L (400-142502-8), AX20140 MW-3L (400-142502-9), AX20141 MW-4L (400-142502-10), AX20132 MW-3 (400-142502-11), AX20133 MW-8 (400-142502-12), AX20133 MW-8 (400-142502-12[MS]), AX20133 MW-8 (400-142502-12[MSD]), AX20135 MW-4 (400-142502-14), AX20136 MW-4DUP (400-142502-15), (400-142502-A-5), (400-142502-A-5 MS), (400-142502-A-5 MSD), (400-142503-A-20), (400-142503-A-20 MS) and (400-142503-A-20 MSD). Elevated reporting limits (RLs) are provided.



Metals ICP

Gorgas Gypsum

WMWGORG_1111

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>
AX20132	20170908HK & 20170921K	WMWGORG_1111
AX20133	20170908HK & 20170914D5K	WMWGORG_1111
AX20134	20170908HK	WMWGORG_1111
AX20135	20170908HK & 20170914D5K	WMWGORG_1111
AX20136	20170908HK & 20170914D5K	WMWGORG_1111
AX20137	20170908HK	WMWGORG_1111
AX20138	20170908GDLK & 20170914D3K	WMWGORG_1111
AX20139	20170908GDLK & 20170914D3K	WMWGORG_1111
AX20140	20170908GDLK & 20170914D3K	WMWGORG_1111
AX20141	20170908GDLK & 20170914D3K	WMWGORG_1111

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.
7. The following samples were revised to reflect Calcium MDL and RL current project limits: AX20132, AX20133, AX20135, AX20136, AX20138, AX20139, AX20140 & AX20141. No results or qualifiers were effected.

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, with the following exception:

<u>Analyte</u>	<u>Sample ID</u>
Calcium	AX20141

The concentration of the matrix spike/matrix spike duplicate added before digestion is less than 30 percent of the sample concentration, causing inaccurate spike recovery information. The laboratory control sample indicates that the digestion and analysis were in control.

- A matrix spike and matrix spike duplicate were digested and analyzed with each ICP batch. All acceptance criteria for precision were met.
8. All samples were analyzed at a x2 dilution to compensate for potential matrix effects. However, the following samples were further 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>
AX20132	Calcium	x100
AX20133	Calcium	x10
AX20135	Calcium	x10
AX20136	Calcium	x10
AX20138	Calcium	x10
AX20139	Calcium	x10
AX20140	Calcium	x10
AX20141	Calcium	x10
AX20141MS	Calcium	x10
AX20141MSD	Calcium	x10

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



TDS

Gorgas Gypsum

WMWGORG_1111

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>
AX20132	601909	WMWGORG_1111
AX20133	601909	WMWGORG_1111
AX20134	601909	WMWGORG_1111
AX20135	601909	WMWGORG_1111
AX20136	601909	WMWGORG_1111
AX20137	601909	WMWGORG_1111
AX20138	601914	WMWGORG_1111
AX20139	601911	WMWGORG_1111
AX20140	601914	WMWGORG_1111
AX20141	601914	WMWGORG_1111

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 0.5 mg 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 2.5 mg and 200 mg residue with the exception of AX20134 and AX20137 which did not meet the 2.5 mg residue requirement.

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



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX20132

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	2.83	mg/L
* Calcium, Total	HRG	9/21/2017	EPA 200.7		100	10	50	598	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		250	5140	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		10	6.00	20	290	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.54	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E		90	130	450	2900	mg/L

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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, 2018

Comments: Test America, Pensacola NELAP ID: E81010
 REVISED COPY: The Calcium MDL and RL were incorrect for project limits.

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



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX20132

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20137	Boron, Total	mg/L	0.00104	0.044	1.00	0.925	0.913	0.925	0.85 to 1.15	92.5	70 to 130	1.30	20
AX20137	Calcium, Total	mg/L	0.00134	0.22	5.00	4.80	4.70	4.51	4.25 to 5.75	96.0	70 to 130	2.20	20

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To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-3

Laboratory ID Number: AX20132

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX19992	Solids, Dissolved	mg/L	0.0000	25			1530	46.0	40 to 60	0.649	5

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CC:

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 FAX (205) 257-1654

Certificate Of Analysis



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX20133

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	0.120	mg/L
* Calcium, Total	HRG	9/14/2017	EPA 200.7		10	1.0	5.0	391	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		250	3390	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		5	3.00	10	93	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.18	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E		70	98.0	350	1800	mg/L

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX20133

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20137	Boron, Total	mg/L	0.00104	0.044	1.00	0.925	0.913	0.925	0.85 to 1.15	92.5	70 to 130	1.30	20
AX20137	Calcium, Total	mg/L	0.00134	0.22	5.00	4.80	4.70	4.51	4.25 to 5.75	96.0	70 to 130	2.20	20

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-8

Laboratory ID Number: AX20133

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX19992	Solids, Dissolved	mg/L	0.0000	25			1530	46.0	40 to 60	0.649	5

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Certificate Of Analysis



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGFB
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX20134

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	9/8/2017	EPA 200.7		2	0.10	0.5	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		1	0.60	2.00	U <0.60	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	RRC	9/7/2017	SM 4500 SO4_E		1	1.40	5.00	J 2.8	mg/L

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGFB
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX20134

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20137	Boron, Total	mg/L	0.00104	0.044	1.00	0.925	0.913	0.925	0.85 to 1.15	92.5	70 to 130	1.30	20
AX20137	Calcium, Total	mg/L	0.00134	0.22	5.00	4.80	4.70	4.51	4.25 to 5.75	96.0	70 to 130	2.20	20

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Batch QC Summary



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGFB
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum Field Blank

Laboratory ID Number: AX20134

Sample	Analysis	Units	MB	MB	Limit	Spike	LFM	Sample	LFB	Rec	Prec	Prec	
								Duplicate	LFB	Limit	Rec	Limit	Prec
AX19992	Solids, Dissolved	mg/L	0.0000	25				1530	46.0	40 to 60			0.649
													5

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Certificate Of Analysis  Alabama Power

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX20135

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	4.19	mg/L
* Calcium, Total	HRG	9/14/2017	EPA 200.7		10	1.0	5.0	105	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		100	1060	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		5	3.00	10	110	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.70	mg/L
* Sulfate, Total, by Test America	RRC	9/7/2017	SM 4500 SO4_E		20	28.0	100	530	mg/L

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Issued By: State of Florida, Department of Health

Expiration: June 30, 2018

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 FAX (205) 257-1654

Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX20135

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20137	Calcium, Total	mg/L	0.00134	0.22	5.00	4.80	4.70	4.51	4.25 to 5.75	96.0	70 to 130	2.20	20
AX20137	Boron, Total	mg/L	0.00104	0.044	1.00	0.925	0.913	0.925	0.85 to 1.15	92.5	70 to 130	1.30	20

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4

Laboratory ID Number: AX20135

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Limit	
AX19992	Solids, Dissolved	mg/L	0.0000	25			1530	46.0	40 to 60	0.649	5

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Certificate Of Analysis  **Alabama Power**

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4 DUP

Laboratory ID Number: AX20136

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	4.23	mg/L
* Calcium, Total	HRG	9/14/2017	EPA 200.7		10	1.0	5.0	100	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		100	1000	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		5	3.00	10	100	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.68	mg/L
* Sulfate, Total, by Test America	RRC	9/7/2017	SM 4500 SO4_E		20	28.0	100	520	mg/L

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4 DUP

Laboratory ID Number: AX20136

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20137	Boron, Total	mg/L	0.00104	0.044	1.00	0.925	0.913	0.925	0.85 to 1.15	92.5	70 to 130	1.30	20
AX20137	Calcium, Total	mg/L	0.00134	0.22	5.00	4.80	4.70	4.51	4.25 to 5.75	96.0	70 to 130	2.20	20

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To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4 DUP

Laboratory ID Number: AX20136

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
				Limit			Duplicate	LFB	Limit	Prec	
AX19992	Solids, Dissolved	mg/L	0.0000	25			1530	46.0	40 to 60	0.649	5

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Certificate Of Analysis  **Alabama Power**

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGEB
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX20137

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	U Not Detected	mg/L
* Calcium, Total	HRG	9/8/2017	EPA 200.7		2	0.10	0.5	U Not Detected	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		25	U Not Detected	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		1	0.60	2.00	U <0.60	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	U <0.032	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E		1	1.40	5.00	J 3.4	mg/L

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGEB
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX20137

Sample	Analysis	Units	MB	MB				LFB		Rec		Prec	
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20137	Boron, Total	mg/L	0.00104	0.044	1.00	0.925	0.913	0.925	0.85 to 1.15	92.5	70 to 130	1.30	20
AX20137	Calcium, Total	mg/L	0.00134	0.22	5.00	4.80	4.70	4.51	4.25 to 5.75	96.0	70 to 130	2.20	20

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORGEB
 Sample Date: 24-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum Equipment Blank

Laboratory ID Number: AX20137

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
			Limit	Limit			Duplicate	LFB	Limit	Prec	
AX19992	Solids, Dissolved	mg/L	0.0000	25			1530	46.0	40 to 60	0.649	5

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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
 REVISED COPY: The Calcium MDL and RL were incorrect for project limits.

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**

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX20138

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	J 0.0253	mg/L
* Calcium, Total	HRG	9/14/2017	EPA 200.7		10	1.0	5.0	152	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		125	2160	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		1	0.60	2.00	2.7	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.16	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E		50	70.0	250	1500	mg/L

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX20138

Sample	Analysis	Units	MB	MB				LFB		Rec			Prec
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20141	Calcium, Total	mg/L	0.000846	0.22	5	295	304	4.39	4.25 to 5.75	-40.0	70 to 130	3.00	20
AX20141	Boron, Total	mg/L	0.000879	0.044	1	0.976	1.03	0.905	0.85 to 1.15	93.4	70 to 130	5.38	20

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-1L

Laboratory ID Number: AX20138

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec		
				Limit			Duplicate	LFB	Limit	Limit	Prec	Limit
AX20035	Solids, Dissolved	mg/L	5.00	25			1030	51.0	40 to 60		0.389	5

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 FAX (205) 257-1654

Certificate Of Analysis  Alabama Power

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX20139

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	J 0.0267	mg/L
* Calcium, Total	HRG	9/14/2017	EPA 200.7		10	1.0	5.0	155	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		100	1550	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		1	0.60	2.00	4.4	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.16	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E		30	42.0	150	920	mg/L

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Expiration: June 30, 2018

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 FAX (205) 257-1654

Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX20139

Sample	Analysis	Units	MB	MB				LFB		Rec			Prec
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20141	Calcium, Total	mg/L	0.000846	0.22	5	295	304	4.39	4.25 to 5.75	-40.0	70 to 130	3.00	20
AX20141	Boron, Total	mg/L	0.000879	0.044	1	0.976	1.03	0.905	0.85 to 1.15	93.4	70 to 130	5.38	20

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-2L

Laboratory ID Number: AX20139

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec		
				Limit			Duplicate	LFB	Limit	Limit	Prec	Limit
AX20139	Solids, Dissolved	mg/L	0.0000	25			1530	46.0	40 to 60		0.649	5

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Certificate Of Analysis  **Alabama Power**

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX20140

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7		2	0.02	0.1	J 0.0425	mg/L
* Calcium, Total	HRG	9/20/2017	EPA 200.7		10	1.0	5.0	298	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C		1		250	4050	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E		1	0.60	2.00	J 1.8	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C		1	0.032	0.10	0.55	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E		90	130	450	2600	mg/L

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Expiration: June 30, 2018

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 FAX (205) 257-1654

Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX20140

Sample	Analysis	Units	MB	MB				LFB		Rec			Prec
				Limit	Spike	MS	MSD	LFB	Limit	Rec	Limit	Prec	Limit
AX20141	Calcium, Total	mg/L	0.000846	0.22	5	295	304	4.39	4.25 to 5.75	-40.0	70 to 130	3.00	20
AX20141	Boron, Total	mg/L	0.000879	0.044	1	0.976	1.03	0.905	0.85 to 1.15	93.4	70 to 130	5.38	20

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Batch QC Summary



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-3L

Laboratory ID Number: AX20140

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
				Limit			Duplicate	LFB	Limit	Prec	
AX20035	Solids, Dissolved	mg/L	5.00	25			1030	51.0	40 to 60	0.389	5

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Certificate Of Analysis  **Alabama Power**

Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX20141

Name	Analyst	Test Date	Reference	Vio Spec	DF	MDL	RL	Q Results	Units
Metals, Cyanide, Total Phenols									
* Boron, Total	HRG	9/8/2017	EPA 200.7	2		0.02	0.1	J 0.0420	mg/L
* Calcium, Total	HRG	9/14/2017	EPA 200.7	10		1.0	5.0	297	mg/L
General Characteristics									
* Solids, Dissolved	CES	8/29/2017	SM 2540C	1			250	3990	mg/L
* Chloride, Total, by Test America	RRC	9/7/2017	SM 4500 Cl_E	1		0.60	2.00	2.3	mg/L
* Fluoride, Total, by Test America	BAB	9/12/2017	SM 4500 F_C	1		0.032	0.10	0.38	mg/L
* Sulfate, Total, by Test America	RRC	9/11/2017	SM 4500 SO4_E	90		130	450	2700	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
 Recovery for Calcium is out of spec. The spike amount was less than 30% of the sample amount. AWR 10/13/17
 REVISED COPY: The Calcium MDL and RL were incorrect for project limits.

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



Revised Copy



To: Dustin Brooks
 Greg Dyer

Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX20141

Sample	Analysis	Units	MB		MS	MSD	LFB	LFB		Rec		Prec	Limit
			Limit	Spike				Limit	Rec	Limit	Prec		
AX20141	Boron, Total	mg/L	0.000879	0.044	1	0.976	1.03	0.905	0.85 to 1.15	93.4	70 to 130	5.38	20
AX20141	Calcium, Total	mg/L	0.000846	0.22	5	295	304	4.39	4.25 to 5.75	-40.0	70 to 130	3.00	20

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To: Dustin Brooks
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Customer Account: WMWGORG
 Sample Date: 23-Aug-17
 Customer ID:
 Delivery Date: 24-Aug-17

Description: Gorgas Gypsum - MW-4L

Laboratory ID Number: AX20141

Sample	Analysis	Units	MB	MB	Spike	LFM	Sample	LFB	Rec	Prec	
				Limit			Duplicate	LFB	Limit	Prec	
AX20035	Solids, Dissolved	mg/L	5.00	25			1030	51.0	40 to 60	0.389	5

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CC:

Definitions



Abbreviation	Description
DF	Dilution Factor
LFB	Lab Fortified Blank
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
 General Service Complex Building 8

- Field Complete
- Lab Complete

Lab ETA

Requested Complete Date	Routine	Results To	Dustin Brooks, Greg Dyer
Site Representative	Che George	Requested By	Greg Dyer
Collector	Anthony Goggins	Location	Gorgas Gypsum

Analysis Requested	Bottle 1 (500mL): Metals, Bottle 2 (250mL) Anions, Bottle 3 (500mL) TDS
Comments	MW-1L*, MW-2L*, MW-3L*, and MW-4L* utilized as upgradient samples collected by Anthony Goggins located at Gorgas Landfill sample site. All anions were outsourced to Test America Pensacola

Sample #	Date	Time	Bottle Count	Description	Lab Filter	Lab Id
MW-3	08/24/2017	10:44	3	Groundwater		AX20132
MW-8	08/24/2017	11:32	3	Groundwater		AX20133
FB-1	08/24/2017	10:21	3	Field Blank		AX20134
MW-4	08/24/2017	12:39	3	Groundwater		AX20135
MW-4DUP	08/24/2017	12:39	3	Sample Duplicate		AX20136
EB-1	08/24/2017	12:56	3	Equipment Blank		AX20137
MW-1L*	08/23/2017	11:23	0	Groundwater		AX20138
MW-2L*	08/23/2017	12:17	0	Groundwater		AX20139
MW-3L*	08/23/2017	13:36	0	Groundwater		AX20140
MW-4L*	08/23/2017	14:30	0	Groundwater		AX20141

Relinquished By	Received By	Date/Time
<i>Anthony Goggins</i>	Keith Kornegay <small>Digitally signed by Keith Kornegay DN: cn=Keith Kornegay, o=Alabama Power Company, ou=Environmental Affairs, email=kkornegay@southernco.com, c=US Date: 2017.08.24 16:53:17 -0500</small>	08/24/2017 16:53

SmarTroll ID	5141-26150-1-1	All metals and radiological bottles have pH < 2 <input checked="" type="checkbox"/>
Turbidity ID	3901-20009-2-1	
Cooler Temp	0.8 degrees C	
Thermometer ID	6035-30997-2-2	
pH Strip ID	6153-32038-10-5	

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: 400-142502-2

TestAmerica SDG: Plant Gorgas Gypsum Storage Area

Client Project/Site: CCR Plant Gorgas

Revision: 2

For:

Alabama Power General Test Laboratory

744 County Rd 87

GSC #8

Calera, Alabama 35040

Attn: Sarah Copeland



Authorized for release by:

10/13/2017 10:28:51 AM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

LINKS

Review your project
results through

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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: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Job ID: 400-142502-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-142502-2

General Chemistry

Method(s) SM 4500 F C: The method blank for analytical batch 367655 contained Fluoride above the method detection limit (MDL) but at the reporting limit (RL). This target analyte concentration was less than the project-specific action limit; therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 367128 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: AX20132 MW-3 (400-142502-11), AX20133 MW-8 (400-142502-12), AX20133 MW-8 (400-142502-12[MS]), AX20133 MW-8 (400-142502-12[MSD]), AX20135 MW-4 (400-142502-14), AX20136 MW-4DUP (400-142502-15), (400-142502-A-15 MS) and (400-142502-A-15 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 367158 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 367463 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: AX20138 MW-1L (400-142502-7), AX20139 MW-2L (400-142502-8), AX20140 MW-3L (400-142502-9), AX20141 MW-4L (400-142502-10), AX20132 MW-3 (400-142502-11), AX20133 MW-8 (400-142502-12), AX20133 MW-8 (400-142502-12[MS]), AX20133 MW-8 (400-142502-12[MSD]), AX20135 MW-4 (400-142502-14), AX20136 MW-4DUP (400-142502-15), (400-142502-A-5), (400-142502-A-5 MS), (400-142502-A-5 MSD), (400-142503-A-20), (400-142503-A-20 MS) and (400-142503-A-20 MSD). Elevated reporting limits (RLs) are provided.

Detection Summary

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

TestAmerica Job ID: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Client Sample ID: AX20138 MW-1L

Lab Sample ID: 400-142502-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2.7		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	1500		250	70	mg/L	50		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20139 MW-2L

Lab Sample ID: 400-142502-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.4		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	920		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20140 MW-3L

Lab Sample ID: 400-142502-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.8	J	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.55		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2600		450	130	mg/L	90		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20141 MW-4L

Lab Sample ID: 400-142502-10

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	0.38		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2700		450	130	mg/L	90		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20132 MW-3

Lab Sample ID: 400-142502-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	290		20	6.0	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.54		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2900		450	130	mg/L	90		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20133 MW-8

Lab Sample ID: 400-142502-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	93	F1	10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.18	B	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1800	F1	350	98	mg/L	70		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20134 FB-1

Lab Sample ID: 400-142502-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2.8	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: AX20135 MW-4

Lab Sample ID: 400-142502-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.70	B	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	530		100	28	mg/L	20		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: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Client Sample ID: AX20136 MW-4DUP

Lab Sample ID: 400-142502-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	100	F1	10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.68	B	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: AX20137 EB-1

Lab Sample ID: 400-142502-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	3.4	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: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

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



Sample Summary

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

TestAmerica Job ID: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-142502-7	AX20138 MW-1L	Water	08/23/17 11:23	08/29/17 09:40
400-142502-8	AX20139 MW-2L	Water	08/23/17 12:17	08/29/17 09:40
400-142502-9	AX20140 MW-3L	Water	08/23/17 13:36	08/29/17 09:40
400-142502-10	AX20141 MW-4L	Water	08/23/17 14:30	08/29/17 09:40
400-142502-11	AX20132 MW-3	Water	08/24/17 10:44	08/29/17 09:40
400-142502-12	AX20133 MW-8	Water	08/24/17 11:32	08/29/17 09:40
400-142502-13	AX20134 FB-1	Water	08/24/17 10:21	08/29/17 09:40
400-142502-14	AX20135 MW-4	Water	08/24/17 12:39	08/29/17 09:40
400-142502-15	AX20136 MW-4DUP	Water	08/24/17 12:39	08/29/17 09:40
400-142502-16	AX20137 EB-1	Water	08/24/17 12:56	08/29/17 09:40

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- 2
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Client Sample Results

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

TestAmerica Job ID: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

Client Sample ID: AX20138 MW-1L

Lab Sample ID: 400-142502-7

Date Collected: 08/23/17 11:23

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.7		2.0	0.60	mg/L			09/07/17 10:02	1
Fluoride	0.16		0.10	0.032	mg/L			09/12/17 09:11	1
Sulfate	1500		250	70	mg/L			09/11/17 09:20	50

Client Sample ID: AX20139 MW-2L

Lab Sample ID: 400-142502-8

Date Collected: 08/23/17 12:17

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.4		2.0	0.60	mg/L			09/07/17 10:02	1
Fluoride	0.16		0.10	0.032	mg/L			09/12/17 09:12	1
Sulfate	920		150	42	mg/L			09/11/17 08:52	30

Client Sample ID: AX20140 MW-3L

Lab Sample ID: 400-142502-9

Date Collected: 08/23/17 13:36

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.8	J	2.0	0.60	mg/L			09/07/17 10:02	1
Fluoride	0.55		0.10	0.032	mg/L			09/12/17 09:16	1
Sulfate	2600		450	130	mg/L			09/11/17 10:15	90

Client Sample ID: AX20141 MW-4L

Lab Sample ID: 400-142502-10

Date Collected: 08/23/17 14:30

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.3		2.0	0.60	mg/L			09/07/17 10:02	1
Fluoride	0.38		0.10	0.032	mg/L			09/12/17 09:18	1
Sulfate	2700		450	130	mg/L			09/11/17 10:15	90

Client Sample ID: AX20132 MW-3

Lab Sample ID: 400-142502-11

Date Collected: 08/24/17 10:44

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		20	6.0	mg/L			09/07/17 13:03	10
Fluoride	0.54		0.10	0.032	mg/L			09/12/17 09:20	1
Sulfate	2900		450	130	mg/L			09/11/17 10:15	90

Client Sample Results

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

TestAmerica Job ID: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

Client Sample ID: AX20133 MW-8

Lab Sample ID: 400-142502-12

Date Collected: 08/24/17 11:32

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93	F1	10	3.0	mg/L			09/07/17 12:16	5
Fluoride	0.18	B	0.10	0.032	mg/L			09/12/17 10:33	1
Sulfate	1800	F1	350	98	mg/L			09/11/17 09:48	70

Client Sample ID: AX20134 FB-1

Lab Sample ID: 400-142502-13

Date Collected: 08/24/17 10:21

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			09/07/17 12:11	1
Fluoride	<0.032		0.10	0.032	mg/L			09/12/17 10:40	1
Sulfate	2.8	J	5.0	1.4	mg/L			09/07/17 14:09	1

Client Sample ID: AX20135 MW-4

Lab Sample ID: 400-142502-14

Date Collected: 08/24/17 12:39

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		10	3.0	mg/L			09/07/17 12:48	5
Fluoride	0.70	B	0.10	0.032	mg/L			09/12/17 10:44	1
Sulfate	530		100	28	mg/L			09/07/17 14:54	20

Client Sample ID: AX20136 MW-4DUP

Lab Sample ID: 400-142502-15

Date Collected: 08/24/17 12:39

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100	F1	10	3.0	mg/L			09/07/17 12:45	5
Fluoride	0.68	B	0.10	0.032	mg/L			09/12/17 10:47	1
Sulfate	520		100	28	mg/L			09/07/17 14:54	20

Client Sample ID: AX20137 EB-1

Lab Sample ID: 400-142502-16

Date Collected: 08/24/17 12:56

Matrix: Water

Date Received: 08/29/17 09:40

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.60		2.0	0.60	mg/L			09/07/17 12:12	1
Fluoride	<0.032		0.10	0.032	mg/L			09/12/17 10:50	1
Sulfate	3.4	J	5.0	1.4	mg/L			09/11/17 08:21	1

Definitions/Glossary

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

TestAmerica Job ID: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

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: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Client Sample ID: AX20138 MW-1L

Lab Sample ID: 400-142502-7

Date Collected: 08/23/17 11:23

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	367092	09/07/17 10:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367615	09/12/17 09:11	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		50	367463	09/11/17 09:20	RRC	TAL PEN

Client Sample ID: AX20139 MW-2L

Lab Sample ID: 400-142502-8

Date Collected: 08/23/17 12:17

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	367092	09/07/17 10:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367615	09/12/17 09:12	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	367463	09/11/17 08:52	RRC	TAL PEN

Client Sample ID: AX20140 MW-3L

Lab Sample ID: 400-142502-9

Date Collected: 08/23/17 13:36

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	367092	09/07/17 10:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367615	09/12/17 09:16	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		90	367463	09/11/17 10:15	RRC	TAL PEN

Client Sample ID: AX20141 MW-4L

Lab Sample ID: 400-142502-10

Date Collected: 08/23/17 14:30

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	367092	09/07/17 10:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367615	09/12/17 09:18	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		90	367463	09/11/17 10:15	RRC	TAL PEN

Client Sample ID: AX20132 MW-3

Lab Sample ID: 400-142502-11

Date Collected: 08/24/17 10:44

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		10	367128	09/07/17 13:03	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367615	09/12/17 09:20	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		90	367463	09/11/17 10:15	RRC	TAL PEN

TestAmerica Pensacola

Lab Chronicle

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

TestAmerica Job ID: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Client Sample ID: AX20133 MW-8

Lab Sample ID: 400-142502-12

Date Collected: 08/24/17 11:32

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		5	367128	09/07/17 12:16	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367655	09/12/17 10:33	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		70	367463	09/11/17 09:48	RRC	TAL PEN

Client Sample ID: AX20134 FB-1

Lab Sample ID: 400-142502-13

Date Collected: 08/24/17 10:21

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	367128	09/07/17 12:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367655	09/12/17 10:40	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	367158	09/07/17 14:09	RRC	TAL PEN

Client Sample ID: AX20135 MW-4

Lab Sample ID: 400-142502-14

Date Collected: 08/24/17 12:39

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		5	367128	09/07/17 12:48	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367655	09/12/17 10:44	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	367158	09/07/17 14:54	RRC	TAL PEN

Client Sample ID: AX20136 MW-4DUP

Lab Sample ID: 400-142502-15

Date Collected: 08/24/17 12:39

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		5	367128	09/07/17 12:45	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367655	09/12/17 10:47	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	367158	09/07/17 14:54	RRC	TAL PEN

Client Sample ID: AX20137 EB-1

Lab Sample ID: 400-142502-16

Date Collected: 08/24/17 12:56

Matrix: Water

Date Received: 08/29/17 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		1	367128	09/07/17 12:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	367655	09/12/17 10:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	367463	09/11/17 08:21	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: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

General Chemistry

Analysis Batch: 367092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142502-7	AX20138 MW-1L	Total/NA	Water	SM 4500 Cl- E	
400-142502-8	AX20139 MW-2L	Total/NA	Water	SM 4500 Cl- E	
400-142502-9	AX20140 MW-3L	Total/NA	Water	SM 4500 Cl- E	
400-142502-10	AX20141 MW-4L	Total/NA	Water	SM 4500 Cl- E	
MB 400-367092/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-367092/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-367092/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-142502-A-5 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-142502-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 367128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142502-11	AX20132 MW-3	Total/NA	Water	SM 4500 Cl- E	
400-142502-12	AX20133 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-142502-13	AX20134 FB-1	Total/NA	Water	SM 4500 Cl- E	
400-142502-14	AX20135 MW-4	Total/NA	Water	SM 4500 Cl- E	
400-142502-15	AX20136 MW-4DUP	Total/NA	Water	SM 4500 Cl- E	
400-142502-16	AX20137 EB-1	Total/NA	Water	SM 4500 Cl- E	
MB 400-367128/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-367128/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-367128/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-142502-12 MS	AX20133 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-142502-12 MSD	AX20133 MW-8	Total/NA	Water	SM 4500 Cl- E	
400-142502-15 MS	AX20136 MW-4DUP	Total/NA	Water	SM 4500 Cl- E	
400-142502-15 MSD	AX20136 MW-4DUP	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 367158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142502-13	AX20134 FB-1	Total/NA	Water	SM 4500 SO4 E	
400-142502-14	AX20135 MW-4	Total/NA	Water	SM 4500 SO4 E	
400-142502-15	AX20136 MW-4DUP	Total/NA	Water	SM 4500 SO4 E	
MB 400-367158/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-367158/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-367158/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-142502-A-5 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-142502-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 367463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142502-7	AX20138 MW-1L	Total/NA	Water	SM 4500 SO4 E	
400-142502-8	AX20139 MW-2L	Total/NA	Water	SM 4500 SO4 E	
400-142502-9	AX20140 MW-3L	Total/NA	Water	SM 4500 SO4 E	
400-142502-10	AX20141 MW-4L	Total/NA	Water	SM 4500 SO4 E	
400-142502-11	AX20132 MW-3	Total/NA	Water	SM 4500 SO4 E	
400-142502-12	AX20133 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-142502-16	AX20137 EB-1	Total/NA	Water	SM 4500 SO4 E	
MB 400-367463/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-367463/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-367463/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-142502-12 MS	AX20133 MW-8	Total/NA	Water	SM 4500 SO4 E	
400-142502-12 MSD	AX20133 MW-8	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: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

Analysis Batch: 367615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142502-7	AX20138 MW-1L	Total/NA	Water	SM 4500 F C	
400-142502-8	AX20139 MW-2L	Total/NA	Water	SM 4500 F C	
400-142502-9	AX20140 MW-3L	Total/NA	Water	SM 4500 F C	
400-142502-10	AX20141 MW-4L	Total/NA	Water	SM 4500 F C	
400-142502-11	AX20132 MW-3	Total/NA	Water	SM 4500 F C	
MB 400-367615/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-367615/5	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-142502-A-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-142502-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 367655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-142502-12	AX20133 MW-8	Total/NA	Water	SM 4500 F C	
400-142502-13	AX20134 FB-1	Total/NA	Water	SM 4500 F C	
400-142502-14	AX20135 MW-4	Total/NA	Water	SM 4500 F C	
400-142502-15	AX20136 MW-4DUP	Total/NA	Water	SM 4500 F C	
400-142502-16	AX20137 EB-1	Total/NA	Water	SM 4500 F C	
MB 400-367655/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-367655/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-142502-12 MS	AX20133 MW-8	Total/NA	Water	SM 4500 F C	
400-142502-12 MSD	AX20133 MW-8	Total/NA	Water	SM 4500 F C	

QC Sample Results

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

TestAmerica Job ID: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-367092/6
Matrix: Water
Analysis Batch: 367092

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			09/07/17 09:46	1

Lab Sample ID: LCS 400-367092/7
Matrix: Water
Analysis Batch: 367092

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	30.0		mg/L		100	90 - 110

Lab Sample ID: MRL 400-367092/3
Matrix: Water
Analysis Batch: 367092

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	1.98	J	mg/L		99	50 - 150

Lab Sample ID: 400-142502-A-5 MS
Matrix: Water
Analysis Batch: 367092

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	6.1		10.0	16.9		mg/L		109	73 - 120

Lab Sample ID: 400-142502-A-5 MSD
Matrix: Water
Analysis Batch: 367092

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	6.1		10.0	16.9		mg/L		109	73 - 120	0	8

Lab Sample ID: MB 400-367128/6
Matrix: Water
Analysis Batch: 367128

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			09/07/17 11:22	1

Lab Sample ID: LCS 400-367128/7
Matrix: Water
Analysis Batch: 367128

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	30.5		mg/L		102	90 - 110

Lab Sample ID: MRL 400-367128/3
Matrix: Water
Analysis Batch: 367128

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	1.94	J	mg/L		97	50 - 150

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

Lab Sample ID: 400-142502-12 MS
 Matrix: Water
 Analysis Batch: 367128

Client Sample ID: AX20133 MW-8
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	93	F1	50.0	102	F1	mg/L		18	73 - 120

Lab Sample ID: 400-142502-12 MSD
 Matrix: Water
 Analysis Batch: 367128

Client Sample ID: AX20133 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	93	F1	50.0	101	F1	mg/L		17	73 - 120	1	8

Lab Sample ID: 400-142502-15 MS
 Matrix: Water
 Analysis Batch: 367128

Client Sample ID: AX20136 MW-4DUP
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	F1	50.0	108	F1	mg/L		8	73 - 120

Lab Sample ID: 400-142502-15 MSD
 Matrix: Water
 Analysis Batch: 367128

Client Sample ID: AX20136 MW-4DUP
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	F1	50.0	110	F1	mg/L		11	73 - 120	2	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-367615/3
 Matrix: Water
 Analysis Batch: 367615

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			09/12/17 07:53	1

Lab Sample ID: LCS 400-367615/5
 Matrix: Water
 Analysis Batch: 367615

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	4.10		mg/L		103	90 - 110

Lab Sample ID: 400-142502-A-5 MS
 Matrix: Water
 Analysis Batch: 367615

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	0.23		1.00	1.32	^	mg/L		109	75 - 125

QC Sample Results

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

TestAmerica Job ID: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-142502-A-5 MSD
Matrix: Water
Analysis Batch: 367615

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	0.23		1.00	1.35	^	mg/L		112	75 - 125	2	4

Lab Sample ID: MB 400-367655/3
Matrix: Water
Analysis Batch: 367655

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100		0.10	0.032	mg/L			09/12/17 10:26	1

Lab Sample ID: LCS 400-367655/4
Matrix: Water
Analysis Batch: 367655

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: 400-142502-12 MS
Matrix: Water
Analysis Batch: 367655

Client Sample ID: AX20133 MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.18	B	1.00	1.29		mg/L		111	75 - 125

Lab Sample ID: 400-142502-12 MSD
Matrix: Water
Analysis Batch: 367655

Client Sample ID: AX20133 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
Fluoride	0.18	B	1.00	1.29		mg/L		111	75 - 125	0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-367158/6
Matrix: Water
Analysis Batch: 367158

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			09/07/17 13:21	1

Lab Sample ID: LCS 400-367158/7
Matrix: Water
Analysis Batch: 367158

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	13.7		mg/L		91	90 - 110

QC Sample Results

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

TestAmerica Job ID: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-367158/3
Matrix: Water
Analysis Batch: 367158

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	4.74	J	mg/L		95	50 - 150

Lab Sample ID: 400-142502-A-5 MS
Matrix: Water
Analysis Batch: 367158

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
Sulfate	700	F1	200	678	F1	mg/L		-9	77 - 128

Lab Sample ID: 400-142502-A-5 MSD
Matrix: Water
Analysis Batch: 367158

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
Sulfate	700	F1	200	672	F1	mg/L		-12	77 - 128	1	5

Lab Sample ID: MB 400-367463/6
Matrix: Water
Analysis Batch: 367463

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			09/11/17 07:58	1

Lab Sample ID: LCS 400-367463/7
Matrix: Water
Analysis Batch: 367463

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	14.2		mg/L		95	90 - 110

Lab Sample ID: MRL 400-367463/3
Matrix: Water
Analysis Batch: 367463

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	4.72	J	mg/L		94	50 - 150

Lab Sample ID: 400-142502-12 MS
Matrix: Water
Analysis Batch: 367463

Client Sample ID: AX20133 MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1800	F1	700	1770	F1	mg/L		-3	77 - 128

Lab Sample ID: 400-142502-12 MSD
Matrix: Water
Analysis Batch: 367463

Client Sample ID: AX20133 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
Sulfate	1800	F1	700	1750	F1	mg/L		-5	77 - 128	1	5

TestAmerica Pensacola

QC Sample Results

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

TestAmerica Job ID: 400-142502-2
SDG: Plant Gorgas Gypsum Storage Area

- 1
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- 14

Chain of Custody Record

Client Information		Lab PM: Whitmire, Cheyenne R		Carrier Tracking No(s): 400-56525-24537.1	
Client Contact: Keith Kornegay		Phone: cheyenne.whitmire@testamericainc.com		COC No: 400-56525-24537.1	
Company: Alabama Power General Test Laboratory		Address: 744 County Rd 87 GSC #8		Page: Page 1 of 1	
City: Calera		State, Zip: AL, 35040		Job #:	
Phone: 205-664-6004		Email: fkkorne@alpower.com		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Project Name: CCR		Project #:		Other:	
Site: Gorgas Gypsum		SSOW#:			
Sample Identification		Due Date Requested:		Analysis Requested	
AX20132	8/24/17	10:44	G	Water	SM 4500 SO4 F
AX20133	8/24/17	11:32	G	Water	SM 4500 Cl F
AX20134	8/24/17	10:21	G	Water	SM 4500 F C
AX20135	8/24/17	12:39	G	Water	
AX20136	8/24/17	12:39	G	Water	
AX20137	8/24/17	12:56	G	Water	
AX20138	8/23/17	11:23	G	Water	
AX20139	8/23/17	12:17	G	Water	
AX20140	8/23/17	13:36	G	Water	
AX20141	8/23/17	14:30	G	Water	
Possible Hazard Identification		Deliverable Requested:		Special Instructions/Note:	
<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		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Total Number of containers	
Empty Kit Relinquished by: Keith Kornegay		Date/Time: 08/28/2017 1200		MW-3	
Relinquished by: Keith Kornegay		Date/Time: 8/29/17 0940		MW-6	
Relinquished by:		Date/Time:		FB-1 (Field Blank)	
Relinquished by:		Date/Time:		MW-4	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		MW-4DUP (Sample Duplicate)	
Date: 10/13/2017		Time: TO		EB-1 (Equipment Blank)	
Date/Time: 08/28/2017 1200		Company: APC		MW-1L	
Date/Time:		Company:		MW-2L	
Date/Time:		Company:		MW-3L	
Date/Time:		Company:		MW-4L	



Login Sample Receipt Checklist

Client: Alabama Power General Test Laboratory

Job Number: 400-142502-2
SDG Number: Plant Gorgas Gypsum Storage Area

Login Number: 142502

List Number: 1

Creator: Siddoway, Benjamin

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	4.8°C IR-2
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: 400-142502-2
 SDG: Plant Gorgas Gypsum Storage Area

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	01-11-18
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	10-09-17
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-17
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-17
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-17
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	12-31-17
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-18
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

Plant Gorgas Gypsum Pond
Field pH Data

Well	Date	Obs	Units
GS-GSA-MW-3	8/24/2016	6.28	SU
GS-GSA-MW-3	10/3/2016	6.28	SU
GS-GSA-MW-3	10/26/2016	6.19	SU
GS-GSA-MW-3	11/21/2016	6.2	SU
GS-GSA-MW-3	1/17/2017	6.13	SU
GS-GSA-MW-3	3/20/2017	6.17	SU
GS-GSA-MW-3	4/17/2017	5.6	SU
GS-GSA-MW-3	5/30/2017	6.07	SU
GS-GSA-MW-3	8/24/2017	5.99	SU
GS-GSA-MW-4	8/24/2016	3.83	SU
GS-GSA-MW-4	10/3/2016	3.82	SU
GS-GSA-MW-4	10/26/2016	3.81	SU
GS-GSA-MW-4	11/21/2016	3.81	SU
GS-GSA-MW-4	1/17/2017	3.78	SU
GS-GSA-MW-4	3/21/2017	3.76	SU
GS-GSA-MW-4	4/17/2017	3.76	SU
GS-GSA-MW-4	5/30/2017	3.76	SU
GS-GSA-MW-4	8/24/2017	3.7	SU
GS-GSA-MW-8	8/24/2016	6.78	SU
GS-GSA-MW-8	10/3/2016	6.71	SU
GS-GSA-MW-8	10/26/2016	6.65	SU
GS-GSA-MW-8	11/21/2016	6.7	SU
GS-GSA-MW-8	1/17/2017	6.25	SU
GS-GSA-MW-8	3/20/2017	7.04	SU
GS-GSA-MW-8	4/18/2017	6.99	SU
GS-GSA-MW-8	5/30/2017	6.98	SU
GS-GSA-MW-8	8/24/2017	6.89	SU
MW-1	10/3/2016	5.21	SU
MW-1	10/3/2016	5.21	SU
MW-1	10/3/2016	5.21	SU
MW-1	10/26/2016	5.2	SU
MW-1	11/21/2016	5.19	SU
MW-1	11/21/2016	5.19	SU
MW-1	1/17/2017	5.17	SU
MW-1	1/17/2017	5.17	SU
MW-1	3/22/2017	5.2	SU
MW-1	3/22/2017	5.2	SU
MW-1	4/18/2017	5.2	SU
MW-1	5/30/2017	5.14	SU
MW-1	5/30/2017	5.14	SU
MW-1	8/23/2017	5.12	SU
MW-1	8/23/2017	5.12	SU
MW-2	10/3/2016	5.91	SU
MW-2	10/3/2016	5.91	SU
MW-2	10/3/2016	5.91	SU
MW-2	10/26/2016	5.84	SU

Plant Gorgas Gypsum Pond
Field pH Data

Well	Date	Obs	Units
MW-2	11/21/2016	5.82	SU
MW-2	11/21/2016	5.82	SU
MW-2	1/17/2017	5.87	SU
MW-2	1/17/2017	5.87	SU
MW-2	3/22/2017	6.01	SU
MW-2	3/22/2017	6.01	SU
MW-2	4/18/2017	6.02	SU
MW-2	5/31/2017	5.85	SU
MW-2	5/31/2017	5.85	SU
MW-2	8/23/2017	5.89	SU
MW-2	8/23/2017	5.89	SU
MW-3	8/24/2016	5.63	SU
MW-3	10/4/2016	5.69	SU
MW-3	10/4/2016	5.69	SU
MW-3	10/4/2016	5.69	SU
MW-3	10/26/2016	5.56	SU
MW-3	11/21/2016	5.42	SU
MW-3	11/21/2016	5.42	SU
MW-3	1/18/2017	5.11	SU
MW-3	1/18/2017	5.11	SU
MW-3	3/22/2017	4.52	SU
MW-3	3/22/2017	4.52	SU
MW-3	4/18/2017	5.84	SU
MW-3	5/31/2017	4.56	SU
MW-3	5/31/2017	4.56	SU
MW-3	8/23/2017	4.77	SU
MW-3	8/23/2017	4.77	SU
MW-4	8/24/2016	6.11	SU
MW-4	10/3/2016	6.13	SU
MW-4	10/3/2016	6.13	SU
MW-4	10/3/2016	6.13	SU
MW-4	10/26/2016	6.12	SU
MW-4	11/21/2016	6.09	SU
MW-4	11/21/2016	6.09	SU
MW-4	1/18/2017	6.09	SU
MW-4	1/18/2017	6.09	SU
MW-4	3/22/2017	6.15	SU
MW-4	3/22/2017	6.15	SU
MW-4	4/18/2017	6.19	SU
MW-4	5/31/2017	6.13	SU
MW-4	5/31/2017	6.13	SU
MW-4	8/23/2017	6.12	SU
MW-4	8/23/2017	6.12	SU

Appendix B

Statistical Data Evaluation

Interwell Prediction Limits - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/6/2017, 1:42 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>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-3	0.1	n/a	8/24/2017	2.83	Yes	36	n/a	n/a	8.333	n/a	n/a	0.001409	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-4	0.1	n/a	8/24/2017	4.19	Yes	36	n/a	n/a	8.333	n/a	n/a	0.001409	NP Inter (normality) 1 of 2
Boron (mg/L)	GS-GSA-MW-8	0.1	n/a	8/24/2017	0.12	Yes	36	n/a	n/a	8.333	n/a	n/a	0.001409	NP Inter (normality) 1 of 2
Calcium (mg/L)	GS-GSA-MW-3	431	n/a	8/24/2017	598	Yes	36	n/a	n/a	0	n/a	n/a	0.001409	NP Inter (normality) 1 of 2
Chloride (mg/L)	GS-GSA-MW-3	3.892	n/a	8/24/2017	290	Yes	36	2.43	0.8276	0	None	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-4	3.892	n/a	8/24/2017	110	Yes	36	2.43	0.8276	0	None	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	GS-GSA-MW-8	3.892	n/a	8/24/2017	93	Yes	36	2.43	0.8276	0	None	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-3	0.434	n/a	8/24/2017	0.54	Yes	36	0.2097	0.127	0	None	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	GS-GSA-MW-4	0.434	n/a	8/24/2017	0.7	Yes	36	0.2097	0.127	0	None	No	0.002505	Param Inter 1 of 2

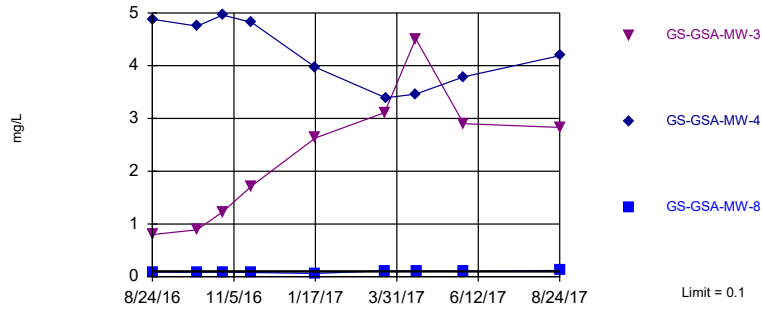
Intrawell Prediction Limits - Significant Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/6/2017, 1:44 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDsND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
pH (pH)	GS-GSA-MW-4	3.877	3.706	8/24/2017	3.7	Yes	8	3.791	0.02949	0	None	No	0.001253 Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-8	1612	n/a	8/24/2017	1800	Yes	8	1290	111.4	0	None	No	0.002505 Param Intra 1 of 2
TDS (mg/L)	GS-GSA-MW-8	3206	n/a	8/24/2017	3390	Yes	8	2528	234.3	0	None	No	0.002505 Param Intra 1 of 2

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4, GS-GSA-MW-8

Prediction Limit
Interwell Non-parametric

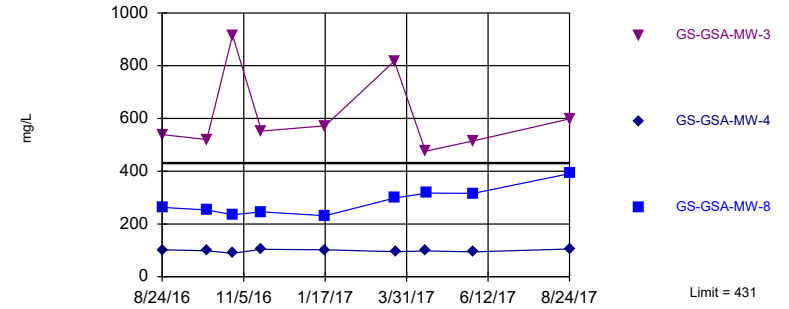


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 36 background values. 8.333% NDs. Annual per-constituent alpha = 0.008426. Individual comparison alpha = 0.001409 (1 of 2). Comparing 3 points to limit.

Constituent: Boron Analysis Run 11/6/2017 1:40 PM View: PLs - Interwell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3

Prediction Limit
Interwell Non-parametric

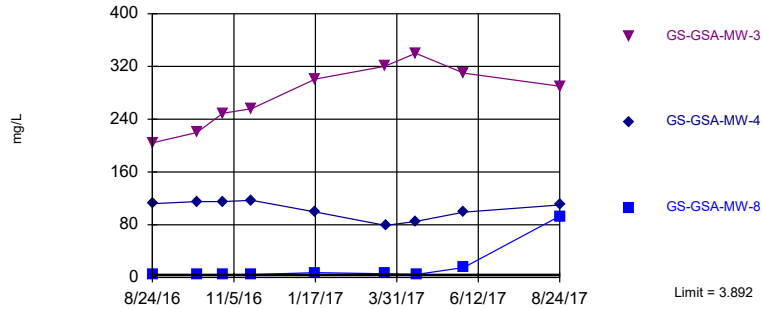


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 36 background values. Annual per-constituent alpha = 0.008426. Individual comparison alpha = 0.001409 (1 of 2). Comparing 3 points to limit.

Constituent: Calcium Analysis Run 11/6/2017 1:40 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

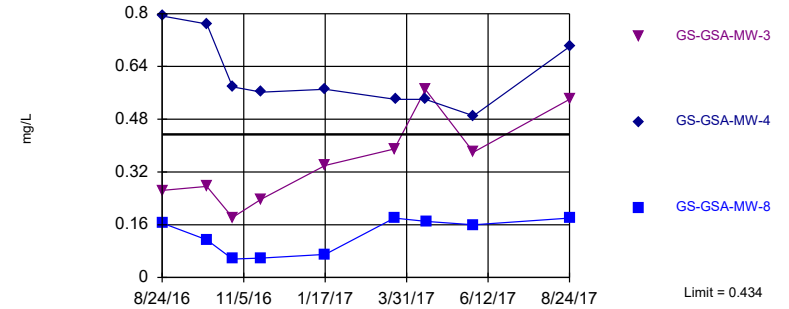


Background Data Summary: Mean=2.43, Std. Dev.=0.8276, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9295, critical = 0.912. Kappa = 1.766 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 3 points to limit.

Constituent: Chloride Analysis Run 11/6/2017 1:40 PM View: PLs - Interwell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit: GS-GSA-MW-3, GS-GSA-MW-4

Prediction Limit
Interwell Parametric



Background Data Summary: Mean=0.2097, Std. Dev.=0.127, n=36. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9449, critical = 0.912. Kappa = 1.766 (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 11/6/2017 1:40 PM View: PLs - Interwell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

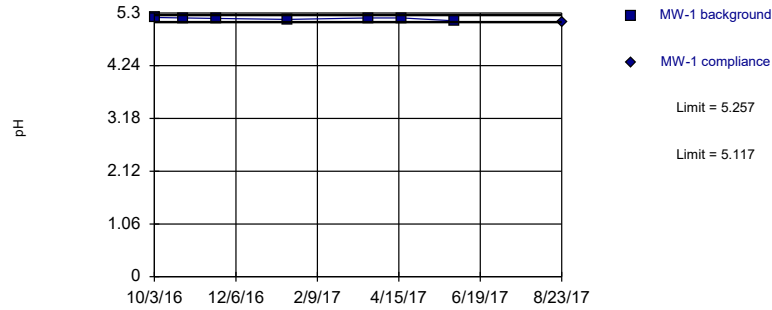
Intrawell Prediction Limits - All Results

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/6/2017, 1:44 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (pH)	MW-1	5.257	5.117	8/23/2017	5.12	No	7	5.187	0.0243	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-2	6.139	5.667	8/23/2017	5.89	No	7	5.903	0.08159	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-3	6.769	3.813	8/23/2017	4.77	No	8	5.291	0.5108	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	MW-4	6.222	6.031	8/23/2017	6.12	No	8	6.126	0.03292	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-3	6.636	5.44	8/24/2017	5.99	No	8	1407	183.8	0	None	x^4	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-4	3.877	3.706	8/24/2017	3.7	Yes	8	3.791	0.02949	0	None	No	0.001253	Param Intra 1 of 2
pH (pH)	GS-GSA-MW-8	7.503	6.022	8/24/2017	6.89	No	8	6.763	0.2559	0	None	No	0.001253	Param Intra 1 of 2
Sulfate (mg/L)	MW-1	1603	n/a	8/23/2017	1500	No	8	1401	69.58	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-2	1379	n/a	8/23/2017	920	No	8	1058	110.9	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-3	3705	n/a	8/23/2017	2600	No	8	2413	446.5	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	MW-4	3230	n/a	8/23/2017	2700	No	8	2706	181.1	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-3	3417	n/a	8/24/2017	2900	No	8	5.7e13	2.7e13	12.5	None	x^4	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-4	684.3	n/a	8/24/2017	530	No	8	571	39.13	0	None	No	0.002505	Param Intra 1 of 2
Sulfate (mg/L)	GS-GSA-MW-8	1612	n/a	8/24/2017	1800	Yes	8	1290	111.4	0	None	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-1	2343	n/a	8/23/2017	2160	No	8	2074	93.19	0	None	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-2	2130	n/a	8/23/2017	1550	No	8	1730	138.3	0	None	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-3	5410	n/a	8/23/2017	4050	No	8	3578	633.3	0	None	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	MW-4	4612	n/a	8/23/2017	3990	No	8	4150	159.6	0	None	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	GS-GSA-MW-3	6033	n/a	8/24/2017	5140	No	8	1.1e11	3.9e10	0	None	x^3	0.002505	Param Intra 1 of 2
TDS (mg/L)	GS-GSA-MW-4	1143	n/a	8/24/2017	1060	No	8	994	51.44	0	None	No	0.002505	Param Intra 1 of 2
TDS (mg/L)	GS-GSA-MW-8	3206	n/a	8/24/2017	3390	Yes	8	2528	234.3	0	None	No	0.002505	Param Intra 1 of 2

Within Limits

Prediction Limit Intrawell Parametric

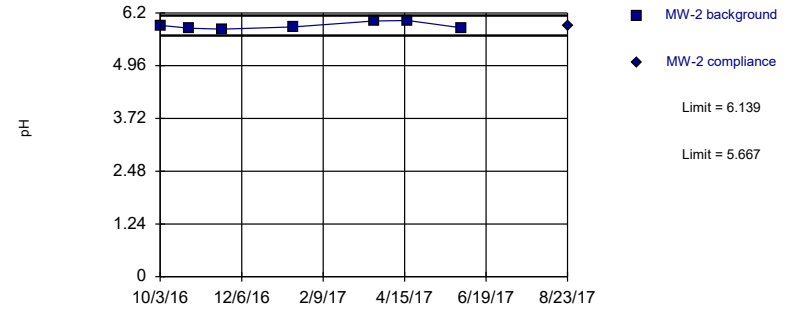


Background Data Summary: Mean=5.187, Std. Dev.=0.0243, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8269, critical = 0.73. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit Intrawell Parametric

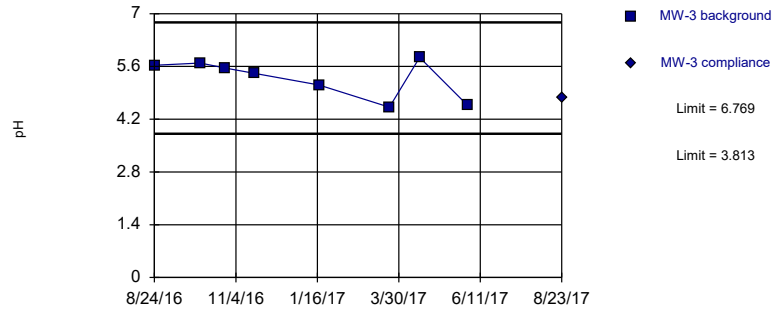


Background Data Summary: Mean=5.903, Std. Dev.=0.08159, n=7. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8531, critical = 0.73. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit Intrawell Parametric

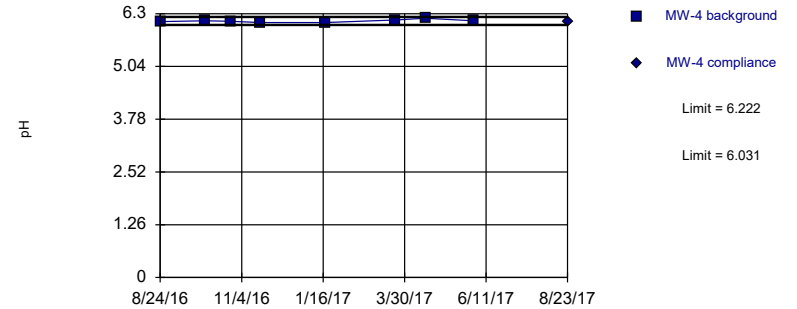


Background Data Summary: Mean=5.291, Std. Dev.=0.5108, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8624, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit Intrawell Parametric

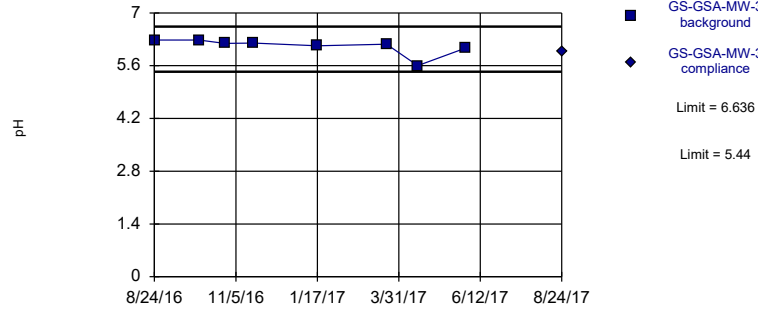


Background Data Summary: Mean=6.126, Std. Dev.=0.03292, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.92, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit Intrawell Parametric

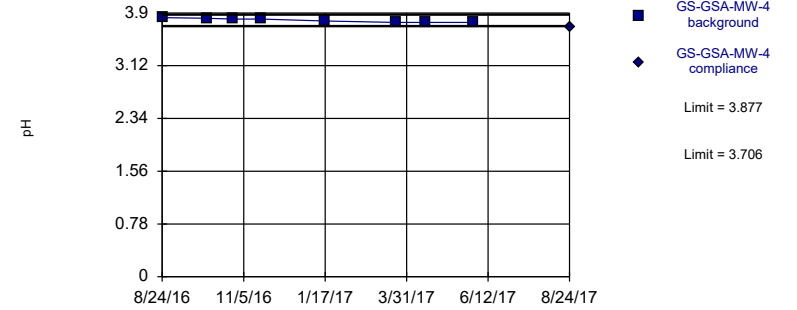


Background Data Summary (based on x⁴ transformation): Mean=1407, Std. Dev.=183.8, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7505, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limits

Prediction Limit Intrawell Parametric

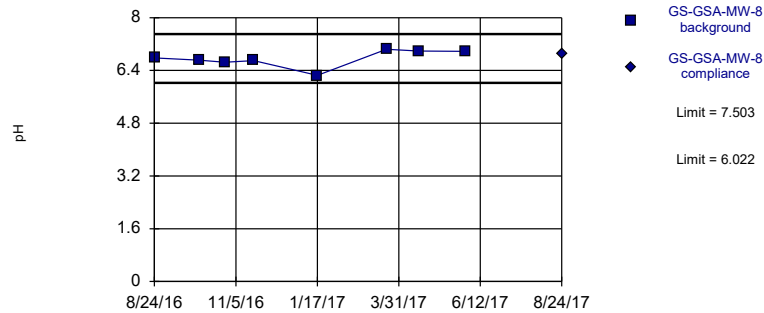


Background Data Summary: Mean=3.791, Std. Dev.=0.02949, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8456, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limits

Prediction Limit Intrawell Parametric

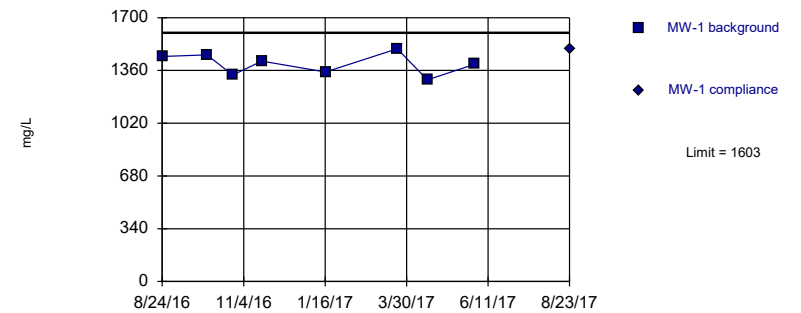


Background Data Summary: Mean=6.763, Std. Dev.=0.2559, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8892, critical = 0.749. Kappa overridden to 2.894.

Constituent: pH Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

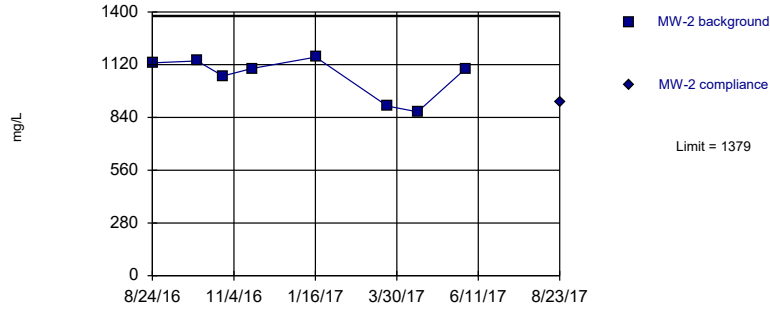
Prediction Limit Intrawell Parametric



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 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

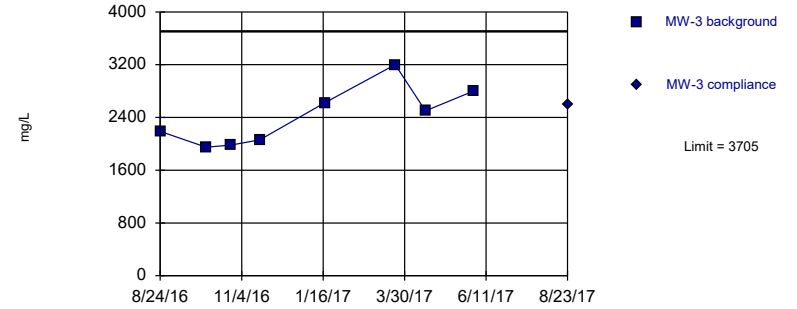
Within Limit Prediction Limit
Intrawell Parametric



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 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

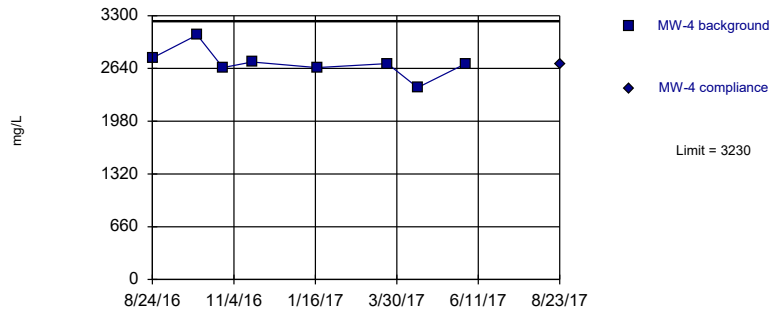
Within Limit Prediction Limit
Intrawell Parametric



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 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

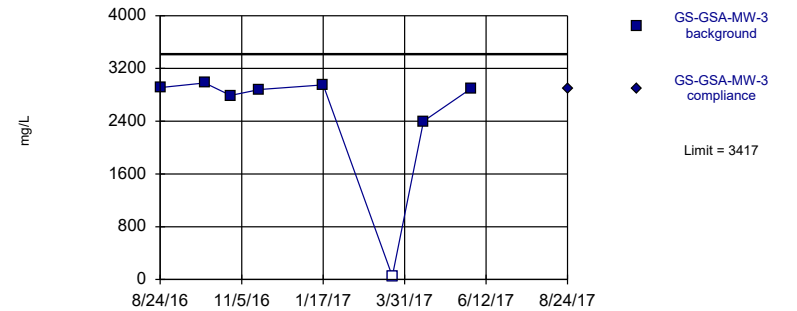
Within Limit Prediction Limit
Intrawell Parametric



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 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit Prediction Limit
Intrawell Parametric

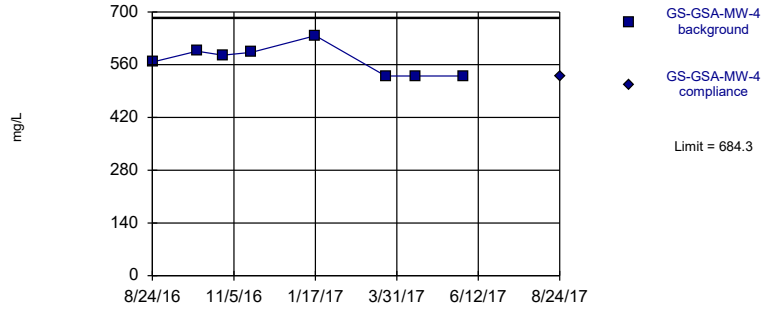


Background Data Summary (based on x^4 transformation): Mean=5.7e13, Std. Dev.=2.7e13, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7689, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit
Intrawell Parametric

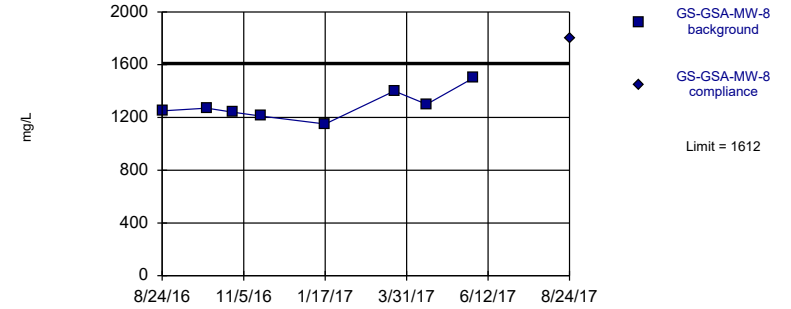


Background Data Summary: Mean=571, Std. Dev.=39.13, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8891, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Exceeds Limit

Prediction Limit
Intrawell Parametric

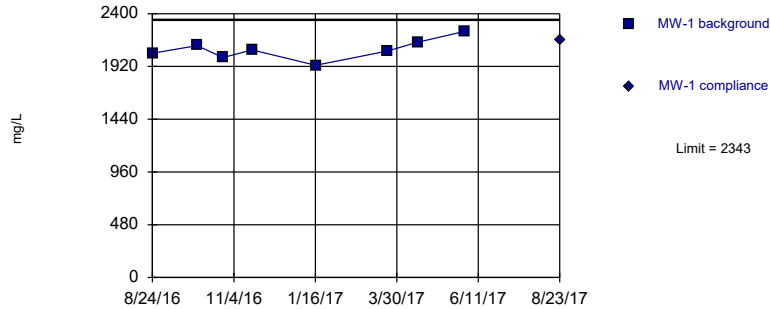


Background Data Summary: Mean=1290, Std. Dev.=111.4, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9261, critical = 0.749. Kappa overridden to 2.894.

Constituent: Sulfate Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

Prediction Limit
Intrawell Parametric

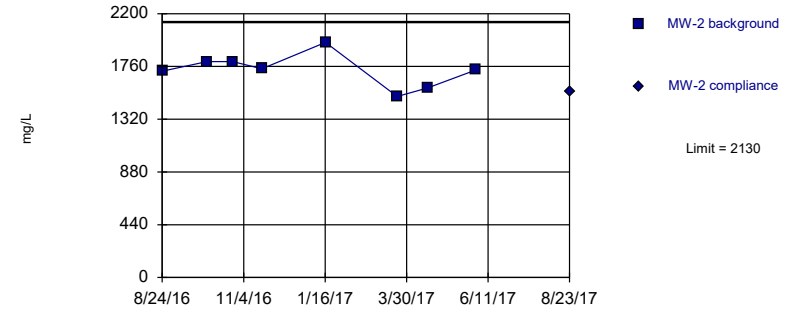


Background Data Summary: Mean=2074, Std. Dev.=93.19, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9848, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit

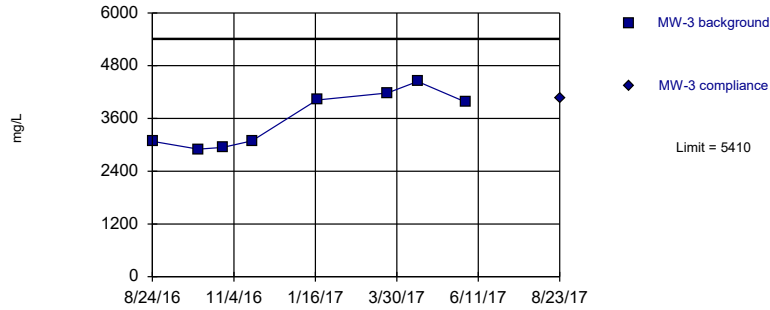
Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=1730, Std. Dev.=138.3, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9496, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

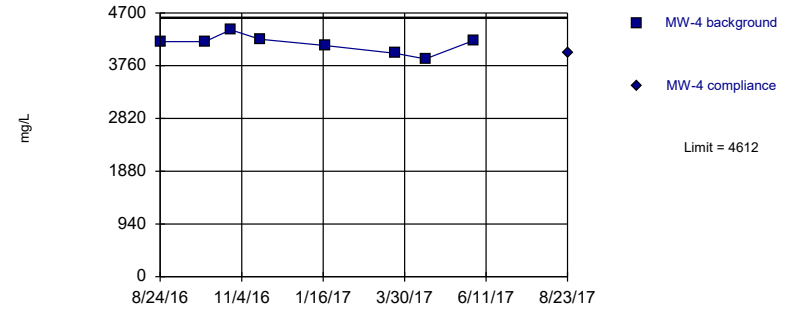
Within Limit Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=3578, Std. Dev.=633.3, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8421, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

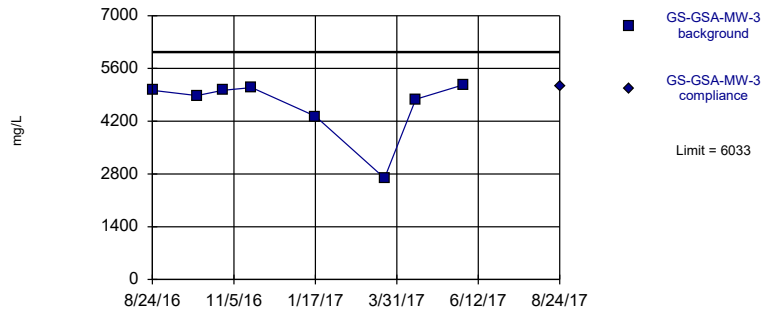
Within Limit Prediction Limit
Intrawell Parametric



Background Data Summary: Mean=4150, Std. Dev.=159.6, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9399, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

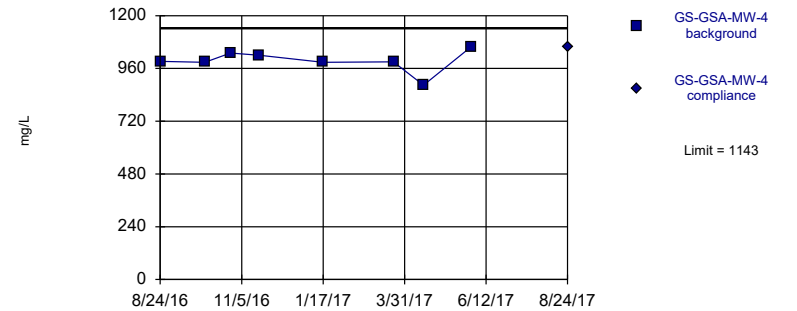
Within Limit Prediction Limit
Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=1.1e11, Std. Dev.=3.9e10, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7774, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Within Limit Prediction Limit
Intrawell Parametric

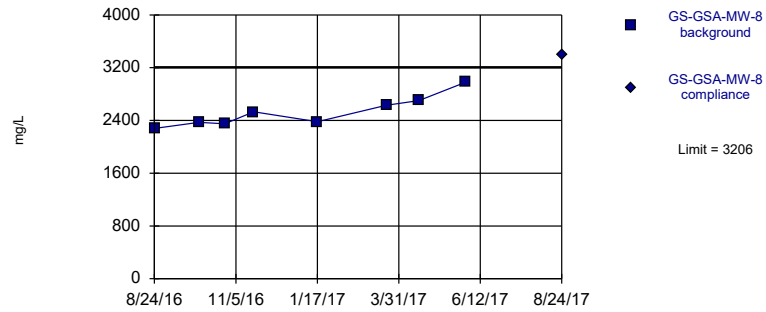


Background Data Summary: Mean=994, Std. Dev.=51.44, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8504, critical = 0.749. Kappa overridden to 2.894.

Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

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.

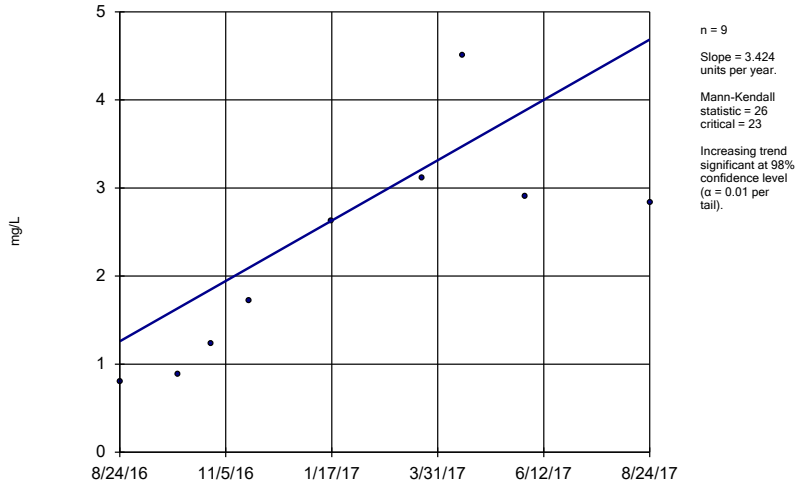
Constituent: TDS Analysis Run 11/6/2017 1:42 PM View: PLs - Intrawell
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Trend Test Summary

Plant William C Gorgas Client: Southern Company Data: Gorgas GSA Printed 11/6/2017, 2:04 PM

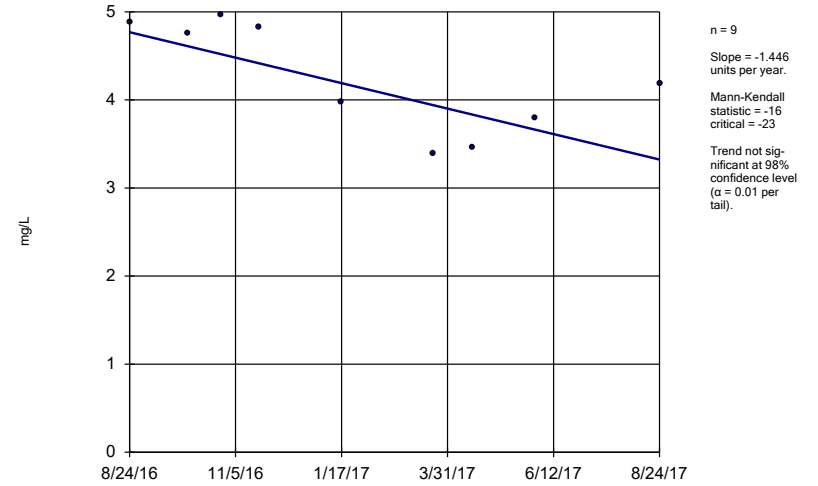
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	GS-GSA-MW-3	3.424	26	23	Yes	9	0	n/a	n/a	0.02	NP
Boron (mg/L)	GS-GSA-MW-4	-1.446	-16	-23	No	9	0	n/a	n/a	0.02	NP
Boron (mg/L)	GS-GSA-MW-8	0.0346	12	23	No	9	0	n/a	n/a	0.02	NP
Calcium (mg/L)	GS-GSA-MW-3	18.08	0	23	No	9	0	n/a	n/a	0.02	NP
Chloride (mg/L)	GS-GSA-MW-3	152.1	24	23	Yes	9	0	n/a	n/a	0.02	NP
Chloride (mg/L)	GS-GSA-MW-4	-13.13	-11	-23	No	9	0	n/a	n/a	0.02	NP
Chloride (mg/L)	GS-GSA-MW-8	9.755	28	23	Yes	9	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	GS-GSA-MW-3	0.2954	22	23	No	9	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	GS-GSA-MW-4	-0.1642	-21	-23	No	9	0	n/a	n/a	0.02	NP
pH (pH)	MW-4 (bg)	0.02145	7	23	No	9	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	GS-GSA-MW-8	339.2	16	23	No	9	0	n/a	n/a	0.02	NP
TDS (mg/L)	GS-GSA-MW-8	923.7	32	23	Yes	9	0	n/a	n/a	0.02	NP

Sen's Slope Estimator GS-GSA-MW-3



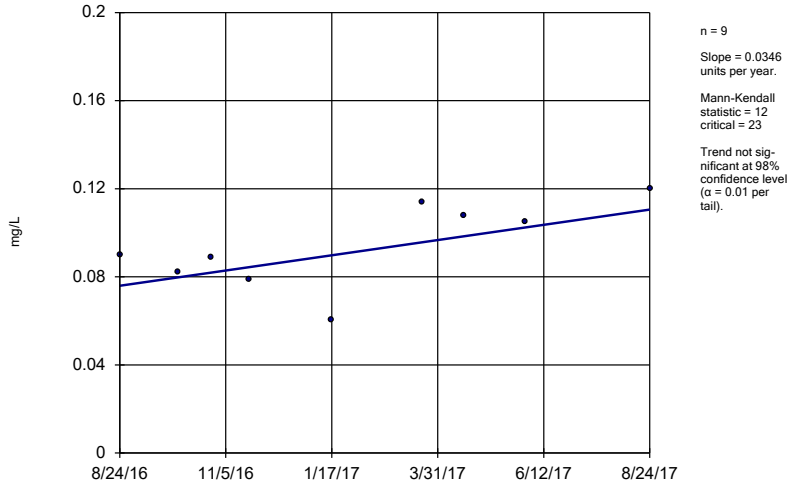
Constituent: Boron Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator GS-GSA-MW-4



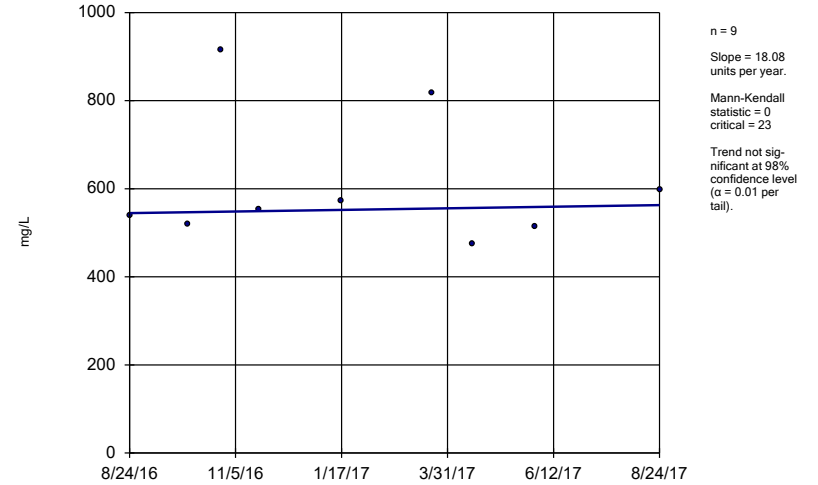
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator GS-GSA-MW-8



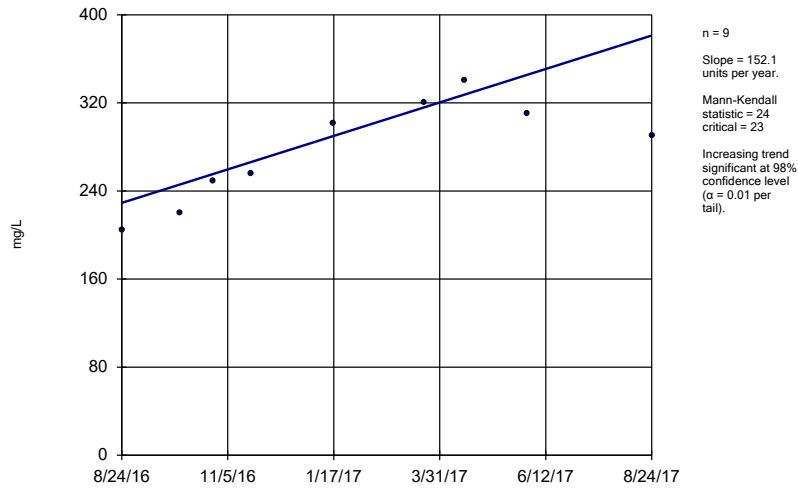
Constituent: Boron Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator GS-GSA-MW-3



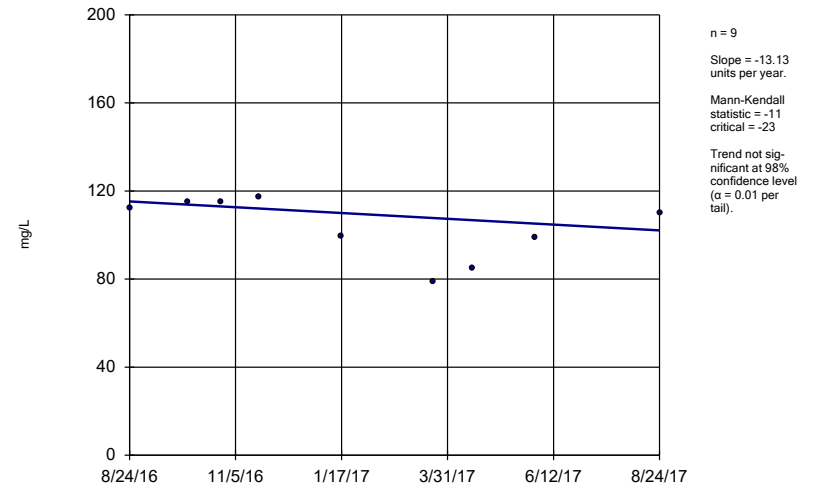
Constituent: Calcium Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator GS-GSA-MW-3



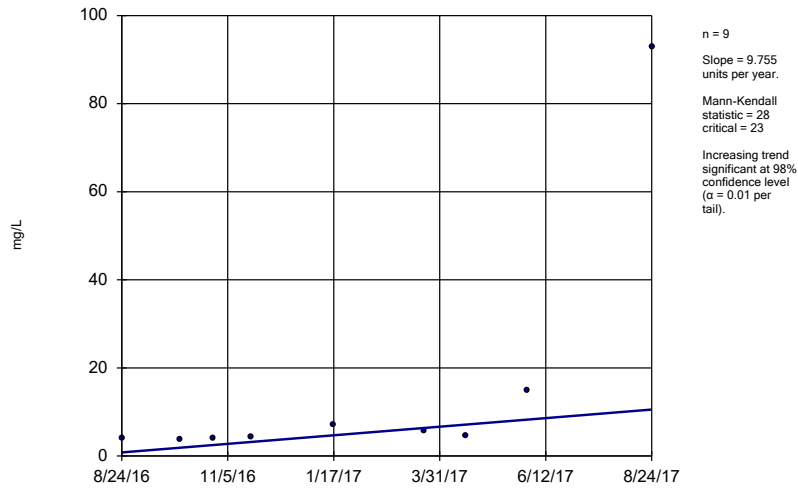
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Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator GS-GSA-MW-4



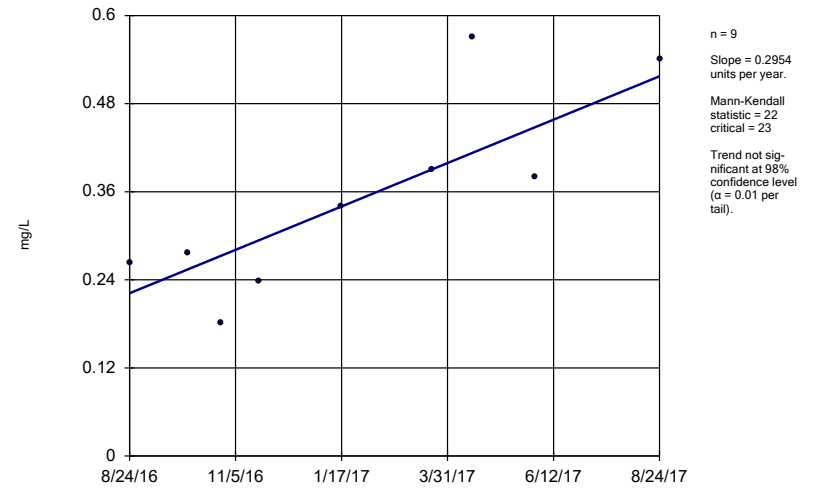
Constituent: Chloride Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator GS-GSA-MW-8



Constituent: Chloride Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

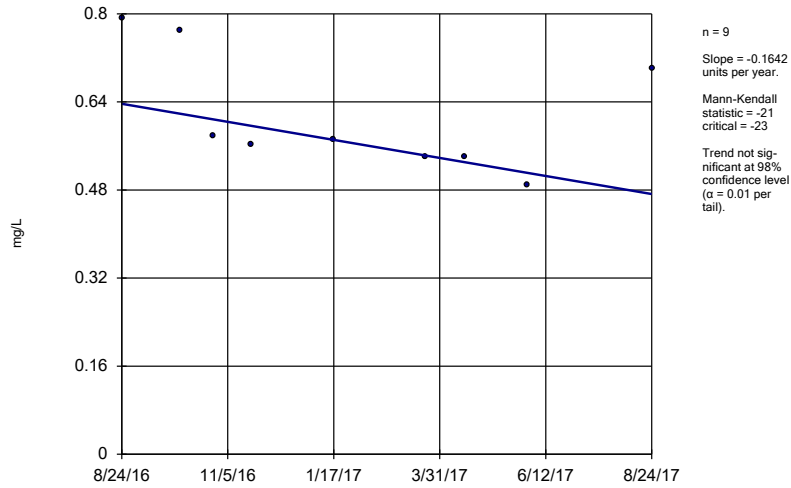
Sen's Slope Estimator GS-GSA-MW-3



Constituent: Fluoride Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator

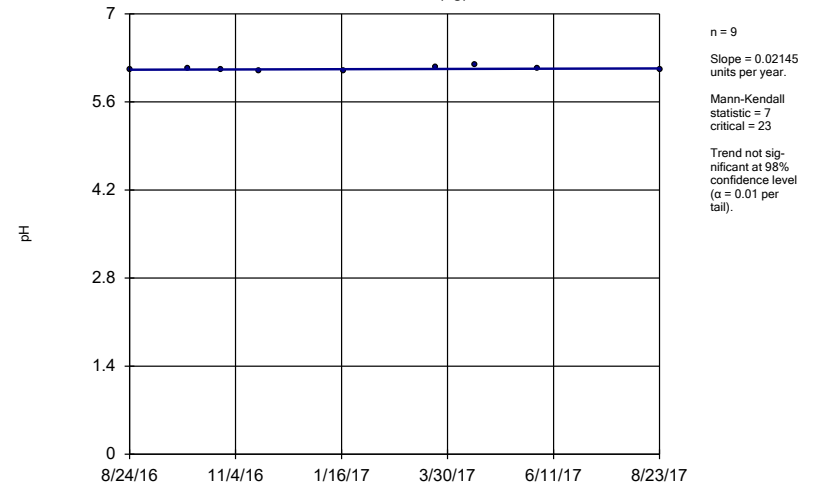
GS-GSA-MW-4



Constituent: Fluoride Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator

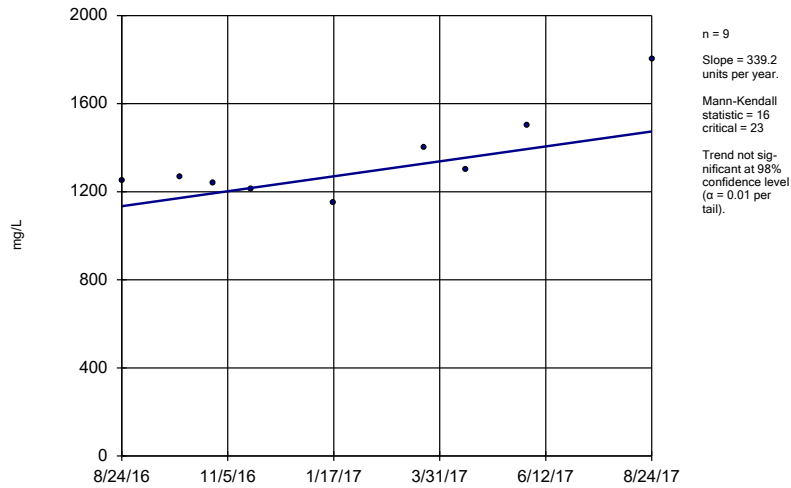
MW-4 (bg)



Constituent: pH Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Sen's Slope Estimator

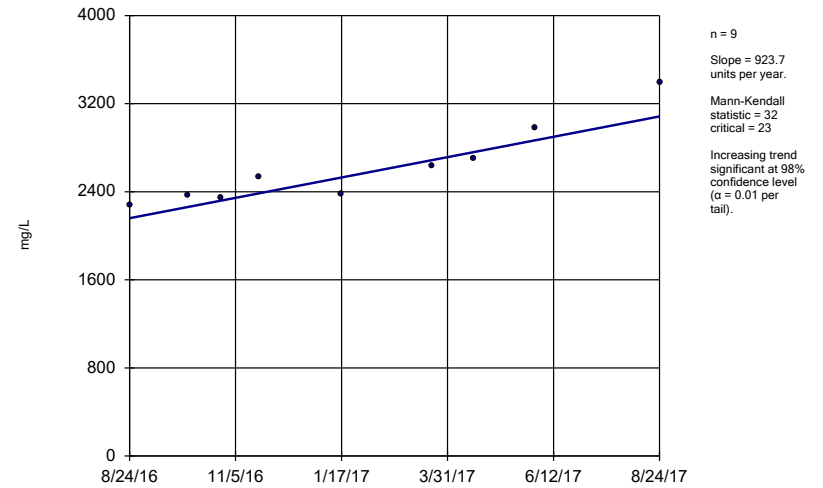
GS-GSA-MW-8



Constituent: Sulfate Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

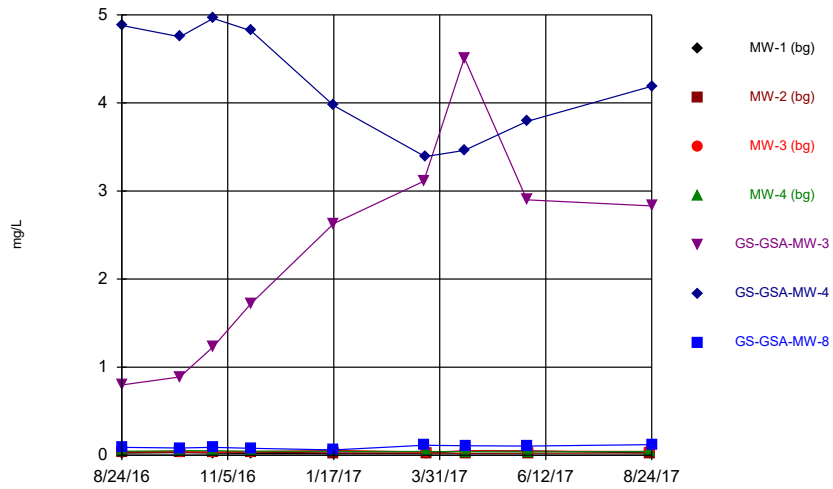
Sen's Slope Estimator

GS-GSA-MW-8



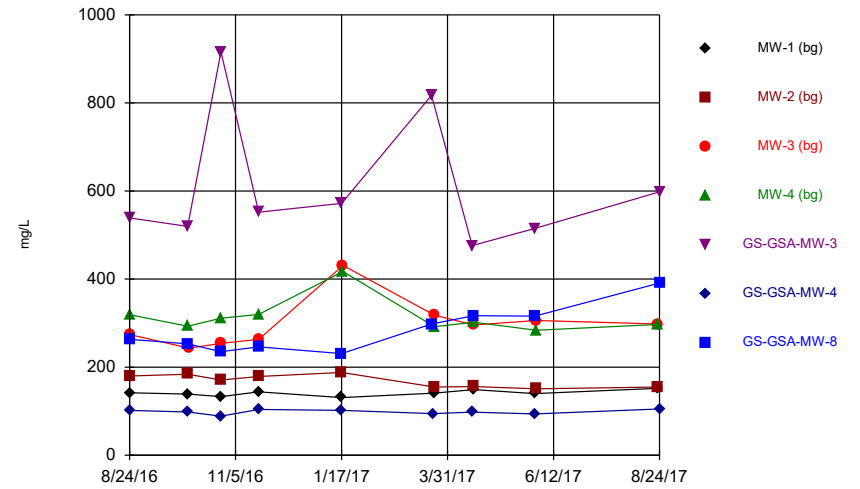
Constituent: TDS Analysis Run 11/6/2017 2:03 PM View: Trends
Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



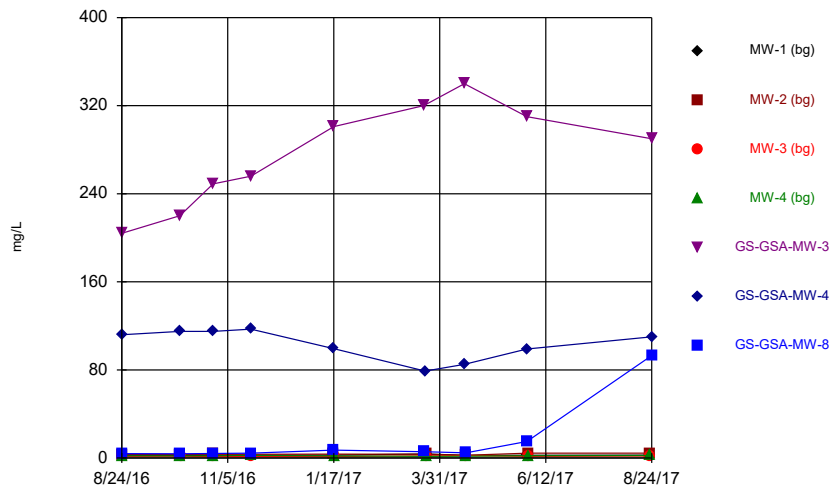
Constituent: Boron Analysis Run 11/15/2017 10:48 AM View: Descriptive
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



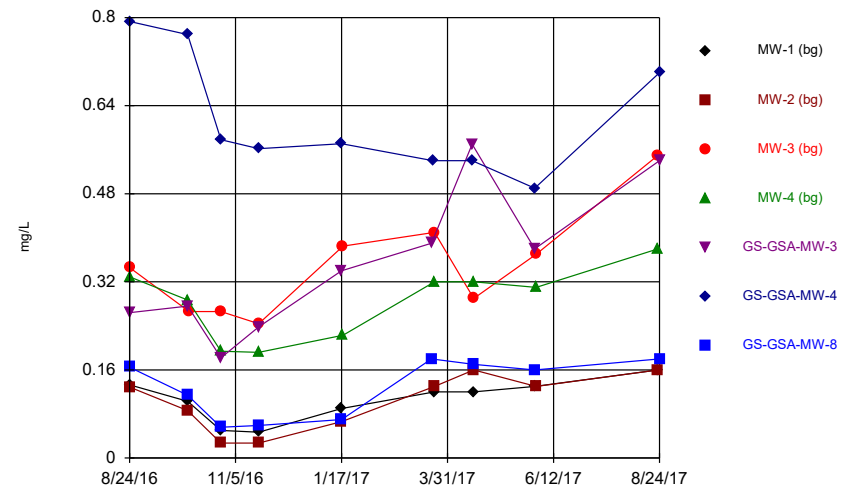
Constituent: Calcium Analysis Run 11/15/2017 10:48 AM View: Descriptive
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



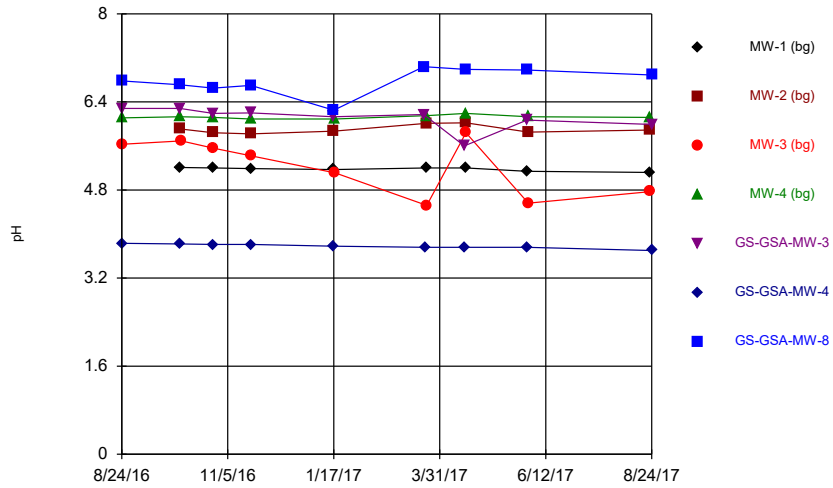
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 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



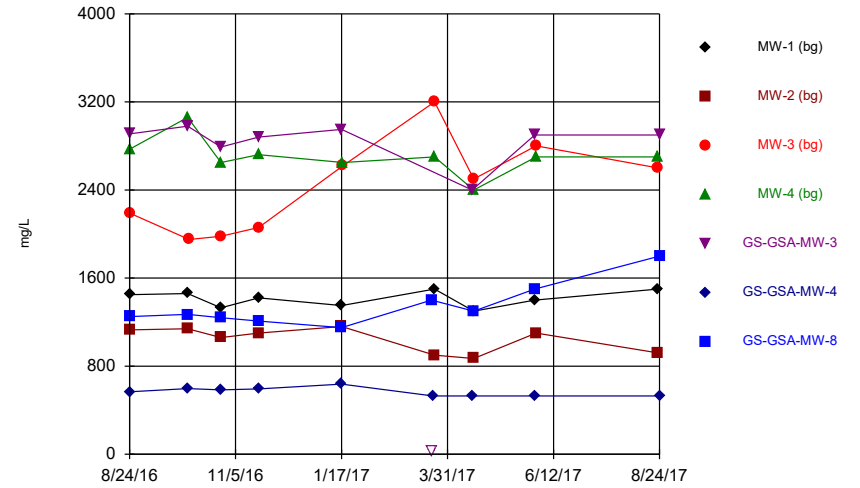
Constituent: Fluoride Analysis Run 11/15/2017 10:48 AM View: Descriptive
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



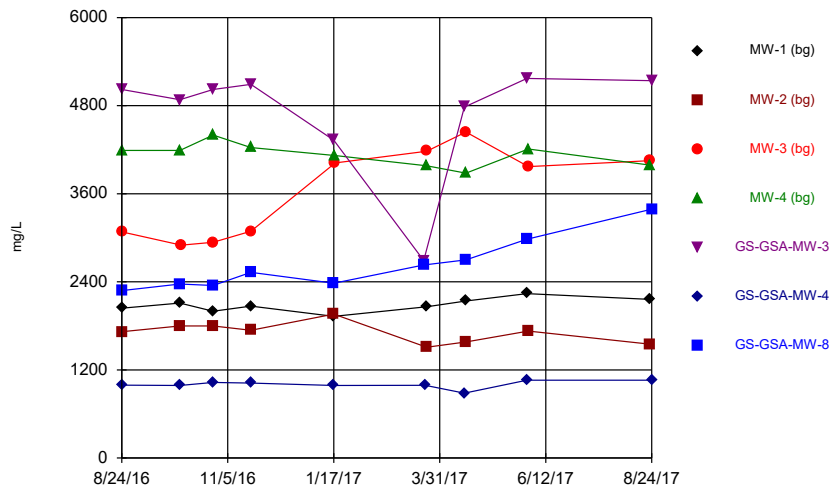
Constituent: pH Analysis Run 11/15/2017 10:48 AM View: Descriptive
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



Constituent: Sulfate Analysis Run 11/15/2017 10:48 AM View: Descriptive
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA

Time Series



Constituent: TDS Analysis Run 11/15/2017 10:48 AM View: Descriptive
 Plant William C Gorgas Client: Southern Company Data: Gorgas GSA