2018 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

MISSISSIPPI POWER COMPANY
PLANT VICTOR DANIEL
ASH POND B

January 31, 2019

Prepared for

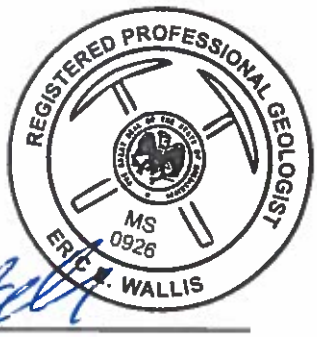
Mississippi Power Company
Gulfport, Mississippi

By

Southern Company Services
Earth Science and Environmental Engineering

CERTIFICATION STATEMENT

This 2018 Annual Groundwater Monitoring and Corrective Action Report, Mississippi Power Company – Plant Daniel Ash Pond B has been prepared to comply with the United States Environmental Protection Agency coal combustion residual rule (40 Code of Federal Regulations (CFR) Part 257, Subpart D) under the supervision of a licensed Professional Geologist with Southern Company Services.



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1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (EPA) coal combustion residual (CCR) rule (40 CFR 257 Subpart D), this 2018 Annual Groundwater Monitoring and Corrective Action Report has been prepared to document the 2018 initial assessment and two semi-annual groundwater monitoring activities at the Plant Daniel Ash Pond B and to satisfy the requirements of §257.90(e). Initial assessment monitoring, semi-annual monitoring, and associated reporting for Plant Daniel Ash Pond B is performed in accordance with the monitoring requirements §257.90 through §257.95.

2.0 SITE DESCRIPTION

Mississippi Power Company's (MPC)'s Plant Daniel is located within Section 35, Township 5 South, Range 6 West, Sections 37, 10, 15, East half of Section 9, Southwest ¼ of Section 2, NW ¼ and south half of Section 11, and the north half and NW ¼ of the SW ¼ of Section 14, all of Township 6 South, Range 6 West. Plant Daniel is situated immediately northwest of the intersection of Mississippi State Highways 63 and 613, between the Pascagoula River to the west and Highway 63 to the east. The site address is 13201 Highway 63 N, Escatawpa, Mississippi 39562.

The Ash Pond is located to the north of the main plant. **Figure 1, Site Location Map**, depicts the location of Plant Daniel relative to site features and the surrounding area.

2.1 Regional Geology & Hydrogeologic Setting

Jackson County lies in the Pascagoula River Drainage Basin in the Gulf Coastal Plain physiographic province. Topographically, the province is gently rolling to flat with local salt marshes. Rock outcrops are sedimentary in origin and range in age from late Miocene to Recent (Gandl, 1982). A dominant regional structural feature which affects the sediments of Miocene and younger age is the Gulf Coast geosyncline. The sediments dip toward the Gulf of Mexico. Where formations are near the surface, dips are from 15 to 35 feet/mile. Further from the outcrop, dips increase dramatically with depth. Fresh-water aquifers in the Pascagoula area are sand or sand and gravel beds of Miocene age or younger, generally less than 1,000 feet below the surface.

The surface geology of soils near Plant Daniel results from present-day weathering processes dictated by southern Mississippi's semi-tropical climate and the parent geologic materials. The soil profile formed from a wide variety of sediments of recent age, and from Pleistocene terrace deposits. The soils therefore contain sand, silt, clay, gravel and organics.

Studies prepared by Southern Company Services, establish five geologic units underlying the immediate Plant Daniel property:

- Unit 1 is a sandy clay aquitard. The unit is discontinuous across the Plant Daniel site and extends from the surface to approximately 32 feet deep in some areas.
- Unit 2 is a sand aquifer, which extends to approximately 70 feet and is considered the uppermost aquifer for groundwater monitoring purposes.
- Unit 3 is a clay aquitard underlying Unit 2 with thicknesses ranging from 2.5 to 9.5 feet at Plant Daniel.
- Unit 4 is a sand and gravel aquifer with a thickness of 34 feet or greater.
- Unit 5 is a clay aquitard.

2.2 Uppermost Aquifer

Two aquifers supply water to the Pascagoula area. These are the Pliocene-age Citronelle and the Miocene Aquifer System, which includes the Graham Ferry Aquifer. Plant Daniel is located in the Citronelle outcrop area.

The Citronelle Aquifers are the shallowest aquifers in the Pascagoula area. Although principally a sand and gravel formation, the Citronelle is characterized by occasional lenses and layers of clay which may cause semi-artesian conditions. Sediments become coarse near the irregular contact with the underlying Pascagoula or Graham Ferry Formation. Also, the Citronelle and overlying coastal deposits are generally considered one hydrogeologic unit. The Citronelle is primarily a water table aquifer with a saturated thickness of about 45 feet. Recharge is primarily by rainfall which moves vertically and down dip to recharge underlying aquifers and to sustain local streams (Wasson, 1978).

3.0 GROUNDWATER MONITORING SYSTEM AND ACTIVITY

Pursuant to §257.91, MPC installed a groundwater monitoring system at Ash Pond B to monitor groundwater within the uppermost aquifer. The PE-certified groundwater monitoring system for Ash Pond B is designed to monitor groundwater passing the waste boundary of the CCR unit within the uppermost aquifer. As required by §257.90(e), the following also describes monitoring-related activities performed in 2018.

3.1 Groundwater Monitoring System

The groundwater monitoring network is comprised of 6 monitoring wells. Monitoring well locations are presented on **Figure 2, Monitoring Well Location Map**. **Table 1, Monitoring Well Network Summary**, summarizes the monitoring well construction details and design purpose for the Plant Daniel Ash Pond B.

Monitoring well locations BAW-1 through BAW-2A serve as upgradient locations for the Ash Pond. Upgradient wells are screened within the same uppermost aquifer as downgradient locations and are representative of background groundwater quality at the site. Monitoring well locations BAW-3 through BAW-7 are utilized as downgradient locations for Ash Pond B. Downgradient locations were determined by water level monitoring and potentiometric surface maps constructed for the site.

Table 1
Monitoring Well Network Summary

Well ID	Purpose	Installation Date	Northing	Easting	Total Hole Depth (feet)	Top of Casing Elevation (feet MSL)	Ground Elevation (feet MSL)	Top of Screen Elevation (feet MSL)	Bottom of Screen Elevation (feet MSL)
BAW-1	Upgradient	7/23/2015	378973.19	1071575.49	57.7	32.24	29.22	-23.18	-28.18
BAW-2	Upgradient	7/23/2015	378234.35	1071589.35	62.7	42.43	39.7	-11.80	-21.80
BAW-2A	Upgradient	3/19/2018	378214.26	1071589.08	65.0	41.15	38.22	-15.28	-25.28
BAW-3	Downgradient	7/23/2015	377405.45	1071551.84	65.5	40.62	37.60	-16.70	-26.70
BAW-4	Downgradient	7/23/2015	377377.67	1071040.27	67.1	37.05	34.12	-21.78	-31.78
BAW-5	Downgradient	7/23/2015	377496.76	1070602.22	66.6	39.93	37.41	-18.89	-28.89
BAW-7	Downgradient	7/23/2015	378708.69	1071263.91	60.3	35.05	32.19	-18.01	-28.01
PZ-8	Piezometer	3/14/2018	377423.77	1070652.62	65.5	40.05	37.26	-17.74	-27.74
PZ-9	Piezometer	3/15/2018	377385.47	1070625.84	60.0	39.32	36.50	-13.00	-23.00

Notes:

1. BAW-2 was replaced by BAW-2A due to well damage.
2. Northing and Easting are referenced to MS SPCS (NAD 83) East Zone U.S. Survey Feet (2301).
3. Elevations shown are referenced Mean Sea Level (MSL) to NAVD 88 (G12) U.S. Survey Feet.

3.2 Monitoring Well Installation and Maintenance

Monitoring well installation and maintenance activities included abandoning damaged monitoring well BAW-2, installing replacement monitoring well BAW-2A, and installing 2 piezometers PZ-8 and PZ-9. During the period from March 14 to March 20, monitoring well BAW-2 was replaced after being damaged by operating equipment. Replacement well BAW-2A was installed within approximately 20 feet of the original locations at the same depths to monitor the same groundwater zone. The replacement monitoring well location is presented on **Figure 2**. Monitoring well BAW-2 was properly plugged and abandoned.

Piezometers PZ-8 and PZ-9 were installed to further characterize groundwater flow conditions at the site. As of December 31, 2018, piezometers have not been sampled. Details regarding these piezometers are also included on **Table 1**. Piezometer locations are presented on **Figure 2**.

3.3 Assessment Monitoring

Based on results of the 2017 Annual Groundwater and Corrective Action Monitoring Report, MPC initiated an assessment monitoring program on in January 15, 2018. Pursuant to 40 CFR §257.95(a) monitoring wells were sampled for all Appendix IV parameters in March as the initial assessment sampling event. Samples were collected from wells in the Professional Engineer (PE)-certified monitoring systems shown on ***Figure 2***. Within 90 days of obtaining results, the first semi-annual assessment monitoring event was completed by sampling monitoring wells for Appendix III and detected Appendix IV parameters in June. The semi-annual monitoring was repeated in November pursuant to 40 CFR §257.95(d). A summary of groundwater sampling events completed in 2018 is provided in **Table 2, Compliance Sampling Events Summary.**

Analytical data from the initial assessment and semi-annual monitoring events are included as **Appendix A, Laboratory Analytical and Field Sampling Reports**, in accordance with the requirements of §257.90(e)(3).

Table 2. Compliance Sampling Events Summary

Event	Sampling Purpose	Constituents Sampled	Laboratory Receipt Date
Compliance Event 1	Initial Assessment	Appendix IV	4/30/2018
Compliance Event 2	Assessment Monitoring	Appendices III and Detected IV	7/16/2018
Compliance Event 3	Assessment Monitoring	Appendices III and IV	12/14/2018

4.0 SAMPLE METHODOLOGY & ANALYSIS

The following describes the methods used to complete groundwater monitoring at Ash Pond B.

4.1 Groundwater Flow Direction, Gradient, and Velocity

Prior to each sampling event, groundwater levels were measured and recorded to the nearest 0.01 foot within a 24-hour period from the certified well network and piezometers. Groundwater levels recorded during the monitoring events are summarized in **Table 3, Groundwater Elevations Summary 2018**. Groundwater levels and top of casing elevations were used to calculate groundwater elevation and develop the potentiometric surface elevation contour map provided as **Figures 3 through 5, Potentiometric Surface Contour Map(s)**. The general direction of groundwater flow is southwest. The groundwater flow pattern observed during the 2018 monitoring events is consistent with historic observations.

Table 3
Groundwater Elevations Summary 2018

Well ID	Top of Casing Elevation (feet MSL)	Groundwater Elevations (feet MSL)		
		March 2018	June 2018	November 2018
BAW-1	32.24	9.10	8.80	8.73
BAW-2A	41.15	8.65	8.37	8.30
BAW-3	40.62	8.52	8.26	8.18
BAW-4	37.05	7.34	7.09	7.05
BAW-5	39.93	6.74	6.51	6.45
BAW-7	35.05	8.41	8.14	8.09
PZ-8	40.05	6.97	6.72	6.68
PZ-9	39.32	6.91	6.66	6.63

Groundwater flow rates at the site were calculated based on hydraulic gradients, hydraulic conductivity from previous slug test results, and an estimated effective porosity of the screened horizon. Based on slug test data collected from Ash Pond B wells, hydraulic conductivity ranges from 25.09 feet per day, which is used in the flow calculations. The hydraulic gradient was calculated between well pairs shown on **Table 4, Groundwater Flow Velocity Calculations - 2018**. An effective porosity of 0.2 was used based on the default values for effective porosity recommended by USEPA for a silty sand-type soil (U.S. USEPA, 1996).

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

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

Where:

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

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

i = Horizontal hydraulic gradient

n_e= Effective porosity

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

TABLE 4: Groundwater Flow Velocity Calculations – 2018

Flow Path		Hydraulic Gradient (I) (feet/feet)	Average Hydraulic Conductivity (K) (feet/day)	Assumed Effective Porosity (n_e)	Calculated Groundwater Flow Velocity (feet/day)	Calculated Groundwater Flow Velocity (feet/year)
March 2018	A	0.00133	25.09	0.2	0.167	60.860
	B	0.00190	25.09	0.2	0.238	86.997
June 2018	A	0.00129	25.09	0.2	0.162	59.055
	B	0.00187	25.09	0.2	0.234	85.531
November 2018	A	0.00128	25.09	0.2	0.161	58.797
	B	0.00185	25.09	0.2	0.232	84.553

Groundwater monitoring wells BAW-1 and BAW-5 were used as points for calculating Flow Path A and BAW-3 and BAW-5 were used to calculate Flow Path B. As shown in **Table 4**, horizontal hydraulic gradients range from 0.00128 ft/ft to 0.00190 ft/ft. As presented on **Table 4** groundwater flow velocity at the site ranges from approximately 0.161 feet/day (or approximately 58.797 feet/year) to 0.238 feet/day (or approximately 86.997 feet/year) across Ash Pond B. These calculated groundwater flow velocities across the site are consistent with historical calculations and with expected velocities.

4.2 Groundwater Sampling

Groundwater samples were collected from monitoring wells using low-flow sampling procedures in accordance with §257.93(a). All monitoring wells at Plant Daniel are equipped with a dedicated pump. Monitoring wells were purged and sampled using low-flow sampling procedures whereby samples are collected when field water quality parameters (pH, turbidity, conductivity, and dissolved oxygen) were measured to determine stabilization. Groundwater samples were collected when the following stabilization criteria were met:

- 0.2 standard units for pH
- 5% for specific conductance
- 0.2 Mg/L or 10% for DO > 0.5 mg/l (whichever is greater)
- Turbidity measurements less than 5 NTU
- Temperature and ORP – record only, no stabilization criteria

During purging and sampling a SmarTroll instrument was used to monitor and record field parameters. Once stabilization was achieved, samples were collected and submitted to the laboratory following standard chain-of-custody (COC) protocol.

4.3 Laboratory Analysis

Laboratory analyses was performed by Test America, Inc. (TAL) of Pensacola, Florida. TAL is accredited by National Environmental Laboratory Accreditation Program (NELAP). TestAmerica maintains a NELAP certification for all parameters analyzed for this project. Groundwater analytical data and chain-of-custody records for the monitoring events are presented in **Appendix A**.

4.4 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 detection samples. Equipment blanks and duplicate samples were also collected during each sampling event. QA/QC sample data was evaluated during data validation and is included in **Appendix A**.

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

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.

5.0 STATISTICAL ANALYSIS

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

5.1 Statistical Methods

The Sanitas groundwater statistical software was used to perform the statistical analyses. Sanitas is a decision support software package that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations. Although Assessment Monitoring has been implemented, statistical evaluation of Appendix III constituents is performed to determine if constituents have returned to background conditions.

5.1.1 Appendix III Parameters

Statistical tests used to evaluate the groundwater monitoring data consist of interwell prediction limits combined with a 1-of-2 verification resample plan for each of the Appendix III parameters. Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent, and the most recent sample from each downgradient well is compared to the same limit for each parameter If the most recent sample exceeds its respective background statistical limit, an initial statistically significant increase (SSI) is identified. A summary table of the statistical limits accompanies the prediction limits in **Appendix B.**

5.1.2 Assessment Monitoring Statistics

Parametric tolerance limits were used to calculate background limits from pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. The background limits were then used when determining the groundwater protection standard (GWPS) established under 40 CFR 257.95(h).

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

(1) The maximum contaminant level (MCL) established under §141.62 and 141.66 of this title.
(2) Where an MCL has not been established:
    (i) Cobalt 6 micrograms per liter (ug/l);
    (ii) Lead 15 ug/l;

(iii) Lithium 40 ug/l; and
(iv) Molybdenum 100 ug/l.

(3) Background levels for constituents were the background level is higher than the MCL or rule-specified GWPS.

Following the above requirements, GWPS have been established for statistical comparison of Appendix IV constituents. **Table 5, Summary of Background Levels and Groundwater Protection Standards**, summarizes the background limit established at each monitoring well and the GWPS used for statistical comparison.

To complete the statistical comparison to GWPS, confidence intervals were constructed for each of the Appendix IV parameters in each downgradient well. Those confidence intervals were compared to the GWPS established under the state and federal rules. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard.

Table 5. Summary of Background Levels and Groundwater Protection Standards

Analyte	Units	Background	Federally-Derived GWPS
Antimony	mg/L	0.0025	0.006
Arsenic	mg/L	0.00046, 0.0013	0.01
Barium	mg/L	0.0409, 0.04053	2
Beryllium	mg/L	0.0025	0.004
Cadmium	mg/L	0.00034, 0.0025	0.005
Chromium	mg/L	0.0028	0.1
Cobalt	mg/L	0.001339, 0.00143	0.006
Fluoride	mg/L	0.032, 0.1	4
Lead	mg/L	0.0013	0.015
Lithium	mg/L	0.005	0.04
Mercury	mg/L	0.0002	0.002
Molybdenum	mg/L	0.015	0.1
Selenium	mg/L	0.0013, 0.0025	0.05
Thallium	mg/L	0.0005	0.002
Combined Radium-226/228	pCi/L	2.5	5

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

5.2 Statistical Analysis Results

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

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

5.2.1 First Semi-Annual Assessment Monitoring Event

The first semi-annual assessment monitoring event occurred in June 2018. Appendix IV constituents were identified at statistically significant levels (SSLs) above the established GWPS. Using GWPS established according to 40 CFR §257.95(h), statistical analysis of Appendix IV data identified the following statistical exceedance of a GWPS at the listed well:

- BAW-5: Lithium

In accordance with §257.95(g), a notification identifying the SSLs for lithium was placed in the facility's Operating Record.

5.2.2 Second Semi-Annual Assessment Monitoring Event

The second semi-annual assessment monitoring event occurred in November 2018. Using GWPS established according to 40 CFR §257.95(h), statistical analysis of Appendix IV data identified the following SSL of a GWPS at the listed well:

- BAW-5: Lithium

6.0 MONITORING PROGRAM STATUS

In accordance with §257.94(e), Plant Daniel Ash Pond B implemented assessment monitoring in January 2018. SSIs of Appendix III and SSLs of Appendix IV parameters were identified during sampling events conducted in 2018. Plant Daniel Ash Pond B will continue assessment monitoring pursuant to §257.95, complete site characterization activities required by §257.95(g)(3) and implement assessment of corrective measures as required by §257.96.

7.0 CONCLUSIONS & FUTURE ACTIONS

Statistical evaluations of the groundwater monitoring data for the Plant Daniel Ash Pond identified SSLs of lithium in 1 well above the GWPS and will continue assessment monitoring in accordance with §257.95. As required by §257.95(g)(1), MPC will characterize the nature and extent of lithium occurrences in site groundwater. Pursuant to §257.95(g)(3), MPC will initiate the assessment of corrective measures requirements of §257.96.

The next regularly scheduled initial assessment monitoring event is tentatively scheduled for March and the subsequent first semi-annual assessment monitoring event is tentatively scheduled for May 2019.

8.0 REFERENCES

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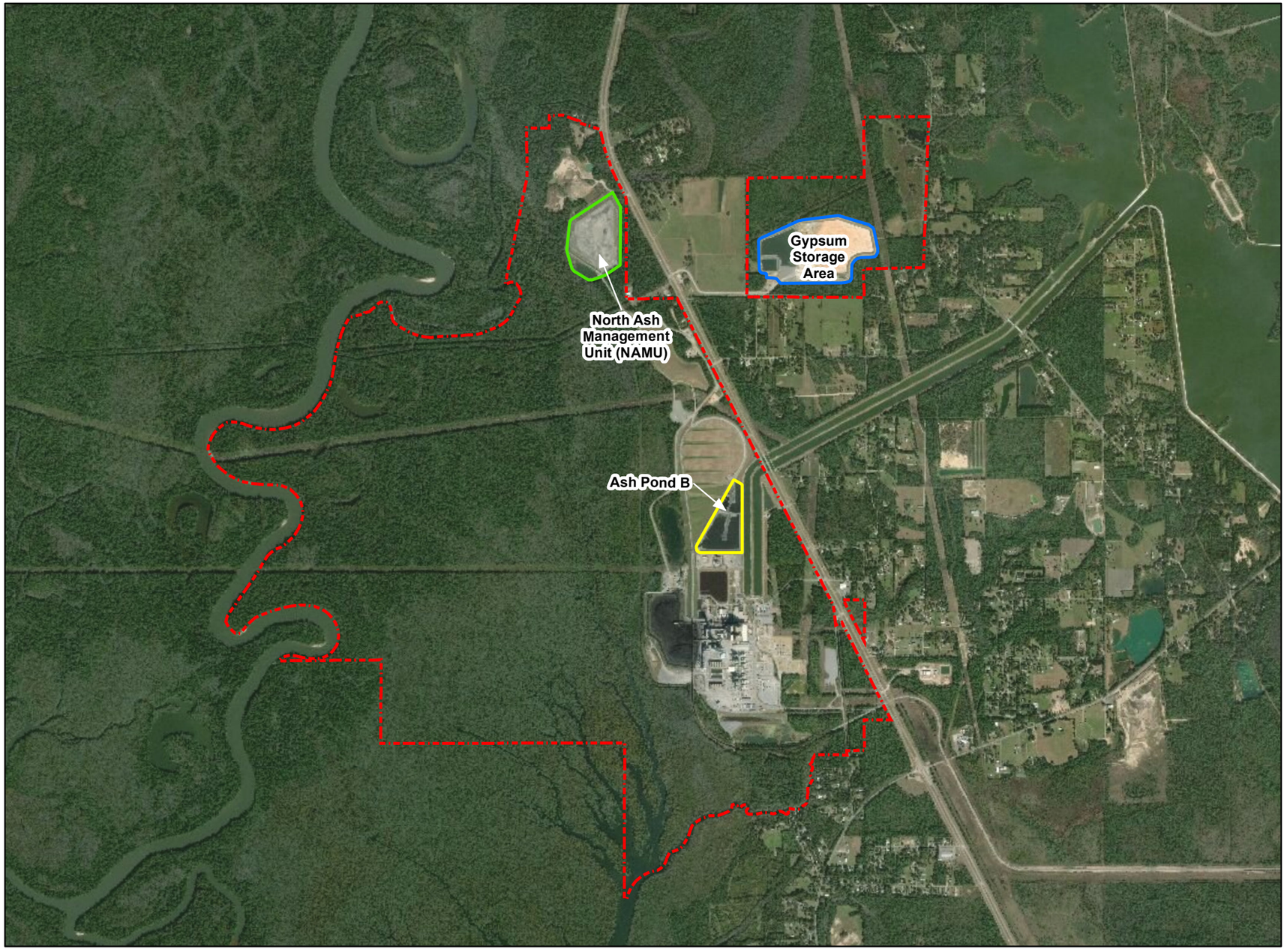
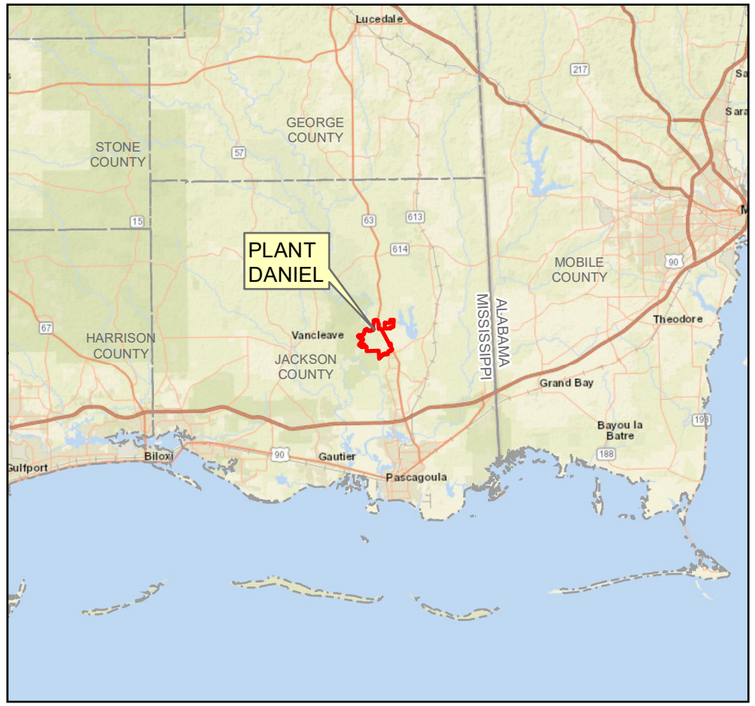
Figures





Legend

- North Ash Management Unit (NAMU) Boundary
- Gypsum Storage Area (GSA) Boundary
- Ash Pond B Boundary
- Property Boundary (Approximate)

N

0 1,250 2,500 5,000 7,500 10,000 Feet

1 inch = 2,500 feet

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Earth Science and Environmental Engineering

FOR

FIGURE 1
SITE LOCATION MAP
PLANT DANIEL
ASH POND B

Mississippi Power Company

Drawing Number ES4116S1

Legend

- Monitoring Well Location
- Ash Pond B Boundary
- Property Boundary (Approximate)

N

0 125 250 500 750 1,000 Feet

1 inch = 250 feet

Southern Company Services
Earth Science and Environmental Engineering

FOR

Mississippi Power Company

FIGURE 2
MONITORING WELL LOCATION MAP
PLANT DANIEL
ASH POND B

Drawing Number ES4116S2

Legend

- Monitoring Well Location
- Estimated Potentiometric Contour (ft NAVD88)
- Approximate Direction of Groundwater Flow
- Ash Pond B Boundary
- Property Boundary (Approximate)

N

0 125 250 500 750 1,000 Feet

1 inch = 250 feet

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Earth Science and Environmental Engineering

FOR

Mississippi Power Company

FIGURE 3
POTENTIOMETRIC SURFACE CONTOUR MAP
MARCH 2018
PLANT DANIEL
ASH POND B

Drawing Number ES4116S3

Legend

- Monitoring Well Location
- Estimated Potentiometric Contour (ft NAVD88)
- Approximate Direction of Groundwater Flow
- Ash Pond B Boundary
- Property Boundary (Approximate)

N

0 125 250 500 750 1,000 Feet

1 inch = 250 feet

Southern Company Services
Earth Science and Environmental Engineering

FOR

Mississippi Power Company

FIGURE 4
POTENTIOMETRIC SURFACE CONTOUR MAP
JUNE 2018
PLANT DANIEL
ASH POND B

Drawing Number ES4116S4

Legend

- Monitoring Well Location
- Estimated Potentiometric Contour (ft NAVD88)
- Approximate Direction of Groundwater Flow
- Ash Pond B Boundary
- Property Boundary (Approximate)

N

0 125 250 500 750 1,000 Feet

1 inch = 250 feet

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FIGURE 5
POTENTIOMETRIC SURFACE CONTOUR MAP
NOVEMBER 2018
PLANT DANIEL
ASH POND B

Drawing Number ES4116S5

Appendix A

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: 400-151541-1
TestAmerica Sample Delivery Group: Bottom Ash
Client Project/Site: CCR -Plant Daniel

For:
Southern Company
PO BOX 2641 GSC8
Birmingham, Alabama 35291

Attn: Mr. Cale B. Sellers

Cheyenne R Whitmire

Authorized for release by:
4/13/2018 4:06:23 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

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Job ID: 400-151541-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151541-1

Metals

Method(s) 6020: The continuing calibration verification (CCV) associated with batch 393373 recovered above the upper control limit for Arsenic, Boron, Beryllium, and Lithium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: EB-01 (400-151541-9), FB-01 (400-151541-10) and (MB 400-392993/1-A ^5).

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 392993 and analytical batch 393373 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) 6020: The post digestion spike % recovery for Boron associated with batch 393373 was outside of control limits.

Method(s) 6020: The continuing calibration verification (CCV) associated with batch 393373 recovered above the upper control limit for Arsenic, Boron, and Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: BAW-7 (400-151541-6), DUP-01 (400-151541-7) and DUP-02 (400-151541-8).

General Chemistry

Method(s) SM 4500 Cl- E: The method blank contained chlorides above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-1 — Lab Sample ID: 400-151541-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.032		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.0		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00092	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	18		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.7	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.87				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-2A — Lab Sample ID: 400-151541-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.036		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	2.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00098	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0026	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00024	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	30		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.7	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.7	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.39				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-3 — Lab Sample ID: 400-151541-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.026		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.00080	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	0.97		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0063		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0023	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00038	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	36		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	7.9	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.6	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.93				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-4 — Lab Sample ID: 400-151541-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0086		0.0025	0.00049	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-4 (Continued) — Lab Sample ID: 400-151541-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	2.7		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00095	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.021		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	56		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.5	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.040	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.4	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.23				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-5 — Lab Sample ID: 400-151541-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.043		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	16	F1	0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0050		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Arsenic - RA	0.0011	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Boron - RA	0.17		0.050	0.021	mg/L	5		6020	Total Recoverable
Lithium - RA	0.23		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	86		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	8.8	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	3.3	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.22				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-7 — Lab Sample ID: 400-151541-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.55		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00063	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Selenium	0.00036	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Lithium - RA	0.0026	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	50		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.3	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.87				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 400-151541-7

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP-01 (Continued) — Lab Sample ID: 400-151541-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.028		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.00088	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	0.80		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0053		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium - RA	0.0036	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	30		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	8.0	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.6	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: DUP-02 — Lab Sample ID: 400-151541-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.012		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.61		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00073	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium - RA	0.0027	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	40		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.5	B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 400-151541-9

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

Client Sample ID: FB-01 — Lab Sample ID: 400-151541-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1.3	J B	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
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
Field Sampling	Field Sampling	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151541-1	BAW-1	Water	03/28/18 15:50	03/29/18 17:05
400-151541-2	BAW-2A	Water	03/28/18 14:34	03/29/18 17:05
400-151541-3	BAW-3	Water	03/28/18 12:16	03/29/18 17:05
400-151541-4	BAW-4	Water	03/28/18 11:07	03/29/18 17:05
400-151541-5	BAW-5	Water	03/28/18 10:12	03/29/18 17:05
400-151541-6	BAW-7	Water	03/29/18 11:42	03/29/18 17:05
400-151541-7	DUP-01	Water	03/28/18 11:16	03/29/18 17:05
400-151541-8	DUP-02	Water	03/29/18 07:00	03/29/18 17:05
400-151541-9	EB-01	Water	03/28/18 13:35	03/29/18 17:05
400-151541-10	FB-01	Water	03/28/18 13:47	03/29/18 17:05

Client Sample Results

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-1

Date Collected: 03/28/18 15:50
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-1

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/08/18 13:04	04/11/18 01:45	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/08/18 13:04	04/11/18 01:45	5
Barium	**0.032**		0.0025	0.00049	mg/L		04/08/18 13:04	04/11/18 01:45	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:45	5
Boron	<0.021		0.050	0.021	mg/L		04/08/18 13:04	04/11/18 01:45	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:45	5
Calcium	**1.0**		0.25	0.13	mg/L		04/08/18 13:04	04/11/18 01:45	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/08/18 13:04	04/11/18 01:45	5
Cobalt	**0.00092**	**J**	0.0025	0.00040	mg/L		04/08/18 13:04	04/11/18 01:45	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/08/18 13:04	04/11/18 01:45	5
Lithium	<0.0011		0.0050	0.0011	mg/L		04/08/18 13:04	04/11/18 01:45	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/08/18 13:04	04/11/18 01:45	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/08/18 13:04	04/11/18 01:45	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/08/18 13:04	04/11/18 01:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:37	04/12/18 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**18**		5.0	3.4	mg/L			04/03/18 13:23	1
Chloride	**5.7**	**B**	2.0	0.60	mg/L			04/05/18 11:58	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:05	1
Sulfate	<1.4		5.0	1.4	mg/L			04/09/18 08:36	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.87**				SU			03/28/18 15:50	1

Client Sample ID: BAW-2A

Date Collected: 03/28/18 14:34
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-2

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/08/18 13:04	04/11/18 01:49	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/08/18 13:04	04/11/18 01:49	5
Barium	**0.036**		0.0025	0.00049	mg/L		04/08/18 13:04	04/11/18 01:49	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:49	5
Boron	<0.021		0.050	0.021	mg/L		04/08/18 13:04	04/11/18 01:49	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:49	5
Calcium	**2.8**		0.25	0.13	mg/L		04/08/18 13:04	04/11/18 01:49	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/08/18 13:04	04/11/18 01:49	5
Cobalt	**0.00098**	**J**	0.0025	0.00040	mg/L		04/08/18 13:04	04/11/18 01:49	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/08/18 13:04	04/11/18 01:49	5
Lithium	**0.0026**	**J**	0.0050	0.0011	mg/L		04/08/18 13:04	04/11/18 01:49	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/08/18 13:04	04/11/18 01:49	5
Selenium	**0.00024**	**J**	0.0013	0.00024	mg/L		04/08/18 13:04	04/11/18 01:49	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/08/18 13:04	04/11/18 01:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:37	04/12/18 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**30**		5.0	3.4	mg/L			04/03/18 13:23	1
Chloride	**6.7**	**B**	2.0	0.60	mg/L			04/05/18 11:58	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:15	1
Sulfate	**1.7**	**J**	5.0	1.4	mg/L			04/09/18 08:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.39**				SU			03/28/18 14:34	1

Client Sample Results

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-3
Date Collected: 03/28/18 12:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-3
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/08/18 13:04	04/11/18 01:54	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/08/18 13:04	04/11/18 01:54	5
Barium	**0.026**		0.0025	0.00049	mg/L		04/08/18 13:04	04/11/18 01:54	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:54	5
Boron	<0.021		0.050	0.021	mg/L		04/08/18 13:04	04/11/18 01:54	5
Cadmium	**0.00080**	**J**	0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:54	5
Calcium	**0.97**		0.25	0.13	mg/L		04/08/18 13:04	04/11/18 01:54	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/08/18 13:04	04/11/18 01:54	5
Cobalt	**0.0063**		0.0025	0.00040	mg/L		04/08/18 13:04	04/11/18 01:54	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/08/18 13:04	04/11/18 01:54	5
Lithium	**0.0023**	**J**	0.0050	0.0011	mg/L		04/08/18 13:04	04/11/18 01:54	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/08/18 13:04	04/11/18 01:54	5
Selenium	**0.00038**	**J**	0.0013	0.00024	mg/L		04/08/18 13:04	04/11/18 01:54	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/08/18 13:04	04/11/18 01:54	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:37	04/12/18 16:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**36**		5.0	3.4	mg/L			04/04/18 16:33	1
Chloride	**7.9**	**B**	2.0	0.60	mg/L			04/05/18 11:58	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:21	1
Sulfate	**1.6**	**J**	5.0	1.4	mg/L			04/09/18 08:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.93**				SU			03/28/18 12:16	1

Client Sample ID: BAW-4

Date Collected: 03/28/18 11:07
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-4

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/08/18 13:04	04/11/18 01:58	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/08/18 13:04	04/11/18 01:58	5
Barium	**0.0086**		0.0025	0.00049	mg/L		04/08/18 13:04	04/11/18 01:58	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:58	5
Boron	<0.021		0.050	0.021	mg/L		04/08/18 13:04	04/11/18 01:58	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 01:58	5
Calcium	**2.7**		0.25	0.13	mg/L		04/08/18 13:04	04/11/18 01:58	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/08/18 13:04	04/11/18 01:58	5
Cobalt	**0.00095**	**J**	0.0025	0.00040	mg/L		04/08/18 13:04	04/11/18 01:58	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/08/18 13:04	04/11/18 01:58	5
Lithium	**0.021**		0.0050	0.0011	mg/L		04/08/18 13:04	04/11/18 01:58	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/08/18 13:04	04/11/18 01:58	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/08/18 13:04	04/11/18 01:58	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/08/18 13:04	04/11/18 01:58	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:37	04/12/18 16:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**56**		5.0	3.4	mg/L			04/04/18 16:33	1
Chloride	**6.5**	**B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	**0.040**	**J**	0.10	0.032	mg/L			04/03/18 11:25	1
Sulfate	**2.4**	**J**	5.0	1.4	mg/L			04/09/18 08:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.23**				SU			03/28/18 11:07	1

Client Sample ID: BAW-5

Date Collected: 03/28/18 10:12
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-5

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 03:31	5
Barium	**0.043**		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 03:31	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:31	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:31	5
Calcium	**16**	**F1**	0.25	0.13	mg/L		04/06/18 12:38	04/10/18 03:31	5
Chromium	**0.0050**		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 03:31	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 03:31	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 03:31	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 03:31	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 03:31	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 03:31	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0011**	**J**	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 13:39	5
Boron	**0.17**		0.050	0.021	mg/L		04/06/18 12:38	04/10/18 13:39	5
Lithium	**0.23**		0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 13:39	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:48	04/12/18 16:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**86**		5.0	3.4	mg/L			04/04/18 16:33	1
Chloride	**8.8**	**B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	**0.060**	**J**	0.10	0.032	mg/L			04/03/18 11:27	1
Sulfate	**3.3**	**J**	5.0	1.4	mg/L			04/09/18 08:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.22**				SU			03/28/18 10:12	1

Client Sample Results

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-7

Date Collected: 03/29/18 11:42
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-6

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 03:54	5
Arsenic	<0.00046	^	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 03:54	5
Barium	**0.011**		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 03:54	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:54	5
Boron	<0.021	^	0.050	0.021	mg/L		04/06/18 12:38	04/10/18 03:54	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:54	5
Calcium	**0.55**		0.25	0.13	mg/L		04/06/18 12:38	04/10/18 03:54	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 03:54	5
Cobalt	**0.00063**	**J**	0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 03:54	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 03:54	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 03:54	5
Selenium	**0.00036**	**J**	0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 03:54	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 03:54	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.0026**	**J**	0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 13:48	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:51	04/12/18 13:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**50**		5.0	3.4	mg/L			04/04/18 17:07	1
Chloride	**5.3**	**B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:31	1
Sulfate	<1.4		5.0	1.4	mg/L			04/09/18 08:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.87**				SU			03/29/18 11:42	1

Client Sample ID: DUP-01

Date Collected: 03/28/18 11:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-7

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 03:58	5
Arsenic	<0.00046	^	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 03:58	5
Barium	**0.028**		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 03:58	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:58	5
Boron	<0.021	^	0.050	0.021	mg/L		04/06/18 12:38	04/10/18 03:58	5
Cadmium	**0.00088**	**J**	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:58	5
Calcium	**0.80**		0.25	0.13	mg/L		04/06/18 12:38	04/10/18 03:58	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 03:58	5
Cobalt	**0.0053**		0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 03:58	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 03:58	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 03:58	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 03:58	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 03:58	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.0036**	**J**	0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 13:52	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:51	04/12/18 13:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**30**		5.0	3.4	mg/L			04/04/18 16:33	1
Chloride	**8.0**	**B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:35	1
Sulfate	**1.6**	**J**	5.0	1.4	mg/L			04/09/18 08:42	1

Client Sample ID: DUP-02

Date Collected: 03/29/18 07:00
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-8

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 04:03	5
Arsenic	<0.00046	^	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 04:03	5
Barium	**0.012**		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 04:03	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 04:03	5
Boron	<0.021	^	0.050	0.021	mg/L		04/06/18 12:38	04/10/18 04:03	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 04:03	5
Calcium	**0.61**		0.25	0.13	mg/L		04/06/18 12:38	04/10/18 04:03	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 04:03	5
Cobalt	**0.00073**	**J**	0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 04:03	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 04:03	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 04:03	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 04:03	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 04:03	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.0027**	**J**	0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 13:57	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:51	04/12/18 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**40**		5.0	3.4	mg/L			04/04/18 17:07	1
Chloride	**5.5**	**B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:45	1
Sulfate	<1.4		5.0	1.4	mg/L			04/09/18 08:49	1

Client Sample ID: EB-01

Date Collected: 03/28/18 13:35
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-9

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 04:30	5
Arsenic	<0.00046	^	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 04:30	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 04:30	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 04:30	5
Boron	<0.021	^	0.050	0.021	mg/L		04/06/18 12:38	04/10/18 04:30	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 04:30	5
Calcium	<0.13		0.25	0.13	mg/L		04/06/18 12:38	04/10/18 04:30	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 04:30	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 04:30	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 04:30	5
Lithium	<0.0011	^	0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 04:30	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 04:30	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 04:30	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 04:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:51	04/12/18 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			04/04/18 16:33	1
Chloride	**1.2**	**J B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:50	1
Sulfate	<1.4		5.0	1.4	mg/L			04/09/18 08:42	1

Client Sample ID: FB-01

Date Collected: 03/28/18 13:47
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-10

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 04:34	5
Arsenic	<0.00046	^	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 04:34	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 04:34	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 04:34	5
Boron	<0.021	^	0.050	0.021	mg/L		04/06/18 12:38	04/10/18 04:34	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 04:34	5
Calcium	<0.13		0.25	0.13	mg/L		04/06/18 12:38	04/10/18 04:34	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 04:34	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 04:34	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 04:34	5
Lithium	<0.0011	^	0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 04:34	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 04:34	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 04:34	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 04:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:51	04/12/18 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			04/04/18 16:33	1
Chloride	**1.3**	**J B**	2.0	0.60	mg/L			04/05/18 12:01	1
Fluoride	<0.032		0.10	0.032	mg/L			04/03/18 11:54	1
Sulfate	<1.4		5.0	1.4	mg/L			04/09/18 08:42	1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
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.

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: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-1
Date Collected: 03/28/18 15:50
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			393138	04/08/18 13:04	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/11/18 01:45	DRE	TAL PEN
Total/NA	Prep	7470A			393556	04/11/18 13:37	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 15:54	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392529	04/03/18 13:23	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 11:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:05	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:36	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393877	03/28/18 15:50	CDH	TAL PEN

Client Sample ID: BAW-2A
Date Collected: 03/28/18 14:34
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			393138	04/08/18 13:04	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/11/18 01:49	DRE	TAL PEN
Total/NA	Prep	7470A			393556	04/11/18 13:37	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 16:06	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392529	04/03/18 13:23	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 11:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:15	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393877	03/28/18 14:34	CDH	TAL PEN

Client Sample ID: BAW-3
Date Collected: 03/28/18 12:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			393138	04/08/18 13:04	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/11/18 01:54	DRE	TAL PEN
Total/NA	Prep	7470A			393556	04/11/18 13:37	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 16:08	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392677	04/04/18 16:33	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 11:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:21	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393877	03/28/18 12:16	CDH	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: BAW-4
Date Collected: 03/28/18 11:07
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			393138	04/08/18 13:04	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/11/18 01:58	DRE	TAL PEN
Total/NA	Prep	7470A			393556	04/11/18 13:37	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 16:10	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392677	04/04/18 16:33	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:25	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393877	03/28/18 11:07	CDH	TAL PEN

Client Sample ID: BAW-5
Date Collected: 03/28/18 10:12
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393373	04/10/18 03:31	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020	RA	5	393442	04/10/18 13:39	DRE	TAL PEN
Total/NA	Prep	7470A			393556	04/11/18 13:48	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 16:11	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392677	04/04/18 16:33	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:27	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393877	03/28/18 10:12	CDH	TAL PEN

Client Sample ID: BAW-7
Date Collected: 03/29/18 11:42
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393373	04/10/18 03:54	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020	RA	5	393442	04/10/18 13:48	DRE	TAL PEN
Total/NA	Prep	7470A			393526	04/11/18 13:51	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 13:26	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392678	04/04/18 17:07	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:31	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:49	RRC	TAL PEN

Client Sample ID: BAW-7
Date Collected: 03/29/18 11:42
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	393877	03/29/18 11:42	CDH	TAL PEN

Client Sample ID: DUP-01
Date Collected: 03/28/18 11:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393373	04/10/18 03:58	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020	RA	5	393442	04/10/18 13:52	DRE	TAL PEN
Total/NA	Prep	7470A			393526	04/11/18 13:51	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 13:28	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392677	04/04/18 16:33	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:35	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN

Client Sample ID: DUP-02
Date Collected: 03/29/18 07:00
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393373	04/10/18 04:03	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020	RA	5	393442	04/10/18 13:57	DRE	TAL PEN
Total/NA	Prep	7470A			393526	04/11/18 13:51	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 13:43	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392678	04/04/18 17:07	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:45	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:49	RRC	TAL PEN

Client Sample ID: EB-01
Date Collected: 03/28/18 13:35
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393373	04/10/18 04:30	DRE	TAL PEN
Total/NA	Prep	7470A			393526	04/11/18 13:51	JAP	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Client Sample ID: EB-01

Date Collected: 03/28/18 13:35
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7470A		1	393751	04/12/18 13:45	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392677	04/04/18 16:33	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN

Client Sample ID: FB-01

Date Collected: 03/28/18 13:47
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392993	04/06/18 12:38	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393373	04/10/18 04:34	DRE	TAL PEN
Total/NA	Prep	7470A			393526	04/11/18 13:51	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 13:46	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	392677	04/04/18 16:33	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392853	04/05/18 12:01	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392503	04/03/18 11:54	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	393183	04/09/18 08:42	RRC	TAL PEN

Laboratory References:

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

Metals

Prep Batch: 392993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-5 - RA	BAW-5	Total Recoverable	Water	3005A	
400-151541-5	BAW-5	Total Recoverable	Water	3005A	
400-151541-6 - RA	BAW-7	Total Recoverable	Water	3005A	
400-151541-6	BAW-7	Total Recoverable	Water	3005A	
400-151541-7	DUP-01	Total Recoverable	Water	3005A	
400-151541-7 - RA	DUP-01	Total Recoverable	Water	3005A	
400-151541-8	DUP-02	Total Recoverable	Water	3005A	
400-151541-8 - RA	DUP-02	Total Recoverable	Water	3005A	
400-151541-9	EB-01	Total Recoverable	Water	3005A	
400-151541-10	FB-01	Total Recoverable	Water	3005A	
MB 400-392993/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-392993/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151541-5 MS	BAW-5	Total Recoverable	Water	3005A	
400-151541-5 MSD	BAW-5	Total Recoverable	Water	3005A	

Prep Batch: 393138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total Recoverable	Water	3005A	
400-151541-2	BAW-2A	Total Recoverable	Water	3005A	
400-151541-3	BAW-3	Total Recoverable	Water	3005A	
400-151541-4	BAW-4	Total Recoverable	Water	3005A	
MB 400-393138/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-393138/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151514-C-4-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-151514-C-4-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 393373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-5	BAW-5	Total Recoverable	Water	6020	392993
400-151541-6	BAW-7	Total Recoverable	Water	6020	392993
400-151541-7	DUP-01	Total Recoverable	Water	6020	392993
400-151541-8	DUP-02	Total Recoverable	Water	6020	392993
400-151541-9	EB-01	Total Recoverable	Water	6020	392993
400-151541-10	FB-01	Total Recoverable	Water	6020	392993
MB 400-392993/1-A ^5	Method Blank	Total Recoverable	Water	6020	392993
400-151541-5 MS	BAW-5	Total Recoverable	Water	6020	392993
400-151541-5 MSD	BAW-5	Total Recoverable	Water	6020	392993

Analysis Batch: 393442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-5 - RA	BAW-5	Total Recoverable	Water	6020	392993
400-151541-6 - RA	BAW-7	Total Recoverable	Water	6020	392993
400-151541-7 - RA	DUP-01	Total Recoverable	Water	6020	392993
400-151541-8 - RA	DUP-02	Total Recoverable	Water	6020	392993
LCS 400-392993/2-A	Lab Control Sample	Total Recoverable	Water	6020	392993

Analysis Batch: 393503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total Recoverable	Water	6020	393138
400-151541-2	BAW-2A	Total Recoverable	Water	6020	393138
400-151541-3	BAW-3	Total Recoverable	Water	6020	393138

Metals (Continued)

Analysis Batch: 393503 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-4	BAW-4	Total Recoverable	Water	6020	393138
MB 400-393138/1-A ^5	Method Blank	Total Recoverable	Water	6020	393138
LCS 400-393138/2-A	Lab Control Sample	Total Recoverable	Water	6020	393138
400-151514-C-4-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	393138
400-151514-C-4-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	393138

Prep Batch: 393526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-6	BAW-7	Total/NA	Water	7470A	
400-151541-7	DUP-01	Total/NA	Water	7470A	
400-151541-8	DUP-02	Total/NA	Water	7470A	
400-151541-9	EB-01	Total/NA	Water	7470A	
400-151541-10	FB-01	Total/NA	Water	7470A	
MB 400-393526/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393526/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151582-N-3-E MS	Matrix Spike	Total/NA	Water	7470A	
400-151582-N-3-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 393556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	7470A	
400-151541-2	BAW-2A	Total/NA	Water	7470A	
400-151541-3	BAW-3	Total/NA	Water	7470A	
400-151541-4	BAW-4	Total/NA	Water	7470A	
400-151541-5	BAW-5	Total/NA	Water	7470A	
MB 400-393556/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393556/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151514-C-4-E MS	Matrix Spike	Total/NA	Water	7470A	
400-151514-C-4-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 393751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	7470A	393556
400-151541-2	BAW-2A	Total/NA	Water	7470A	393556
400-151541-3	BAW-3	Total/NA	Water	7470A	393556
400-151541-4	BAW-4	Total/NA	Water	7470A	393556
400-151541-5	BAW-5	Total/NA	Water	7470A	393556
400-151541-6	BAW-7	Total/NA	Water	7470A	393526
400-151541-7	DUP-01	Total/NA	Water	7470A	393526
400-151541-8	DUP-02	Total/NA	Water	7470A	393526
400-151541-9	EB-01	Total/NA	Water	7470A	393526
400-151541-10	FB-01	Total/NA	Water	7470A	393526
MB 400-393526/14-A	Method Blank	Total/NA	Water	7470A	393526
MB 400-393556/14-A	Method Blank	Total/NA	Water	7470A	393556
LCS 400-393526/15-A	Lab Control Sample	Total/NA	Water	7470A	393526
LCS 400-393556/15-A	Lab Control Sample	Total/NA	Water	7470A	393556
400-151514-C-4-E MS	Matrix Spike	Total/NA	Water	7470A	393556
400-151514-C-4-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393556
400-151582-N-3-E MS	Matrix Spike	Total/NA	Water	7470A	393526
400-151582-N-3-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393526

General Chemistry

Analysis Batch: 392503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	SM 4500 F C	
400-151541-2	BAW-2A	Total/NA	Water	SM 4500 F C	
400-151541-3	BAW-3	Total/NA	Water	SM 4500 F C	
400-151541-4	BAW-4	Total/NA	Water	SM 4500 F C	
400-151541-5	BAW-5	Total/NA	Water	SM 4500 F C	
400-151541-6	BAW-7	Total/NA	Water	SM 4500 F C	
400-151541-7	DUP-01	Total/NA	Water	SM 4500 F C	
400-151541-8	DUP-02	Total/NA	Water	SM 4500 F C	
400-151541-9	EB-01	Total/NA	Water	SM 4500 F C	
400-151541-10	FB-01	Total/NA	Water	SM 4500 F C	
MB 400-392503/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-392503/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-151541-1 MS	BAW-1	Total/NA	Water	SM 4500 F C	
400-151541-1 MSD	BAW-1	Total/NA	Water	SM 4500 F C	
400-151541-8 DU	DUP-02	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	SM 2540C	
400-151541-2	BAW-2A	Total/NA	Water	SM 2540C	
MB 400-392529/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-392529/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151496-C-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 392677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-3	BAW-3	Total/NA	Water	SM 2540C	
400-151541-4	BAW-4	Total/NA	Water	SM 2540C	
400-151541-5	BAW-5	Total/NA	Water	SM 2540C	
400-151541-7	DUP-01	Total/NA	Water	SM 2540C	
400-151541-9	EB-01	Total/NA	Water	SM 2540C	
400-151541-10	FB-01	Total/NA	Water	SM 2540C	
MB 400-392677/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-392677/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151541-3 DU	BAW-3	Total/NA	Water	SM 2540C	

Analysis Batch: 392678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-6	BAW-7	Total/NA	Water	SM 2540C	
400-151541-8	DUP-02	Total/NA	Water	SM 2540C	
MB 400-392678/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-392678/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151461-B-17 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 392853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	SM 4500 Cl- E	
400-151541-2	BAW-2A	Total/NA	Water	SM 4500 Cl- E	
400-151541-3	BAW-3	Total/NA	Water	SM 4500 Cl- E	
400-151541-4	BAW-4	Total/NA	Water	SM 4500 Cl- E	
400-151541-5	BAW-5	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 392853 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-6	BAW-7	Total/NA	Water	SM 4500 Cl- E	
400-151541-7	DUP-01	Total/NA	Water	SM 4500 Cl- E	
400-151541-8	DUP-02	Total/NA	Water	SM 4500 Cl- E	
400-151541-9	EB-01	Total/NA	Water	SM 4500 Cl- E	
400-151541-10	FB-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-392853/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392853/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392853/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-151541-1 MS	BAW-1	Total/NA	Water	SM 4500 Cl- E	
400-151541-1 MSD	BAW-1	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 393183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	SM 4500 SO4 E	
400-151541-2	BAW-2A	Total/NA	Water	SM 4500 SO4 E	
400-151541-3	BAW-3	Total/NA	Water	SM 4500 SO4 E	
400-151541-4	BAW-4	Total/NA	Water	SM 4500 SO4 E	
400-151541-5	BAW-5	Total/NA	Water	SM 4500 SO4 E	
400-151541-6	BAW-7	Total/NA	Water	SM 4500 SO4 E	
400-151541-7	DUP-01	Total/NA	Water	SM 4500 SO4 E	
400-151541-8	DUP-02	Total/NA	Water	SM 4500 SO4 E	
400-151541-9	EB-01	Total/NA	Water	SM 4500 SO4 E	
400-151541-10	FB-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-393183/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-393183/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-393183/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-151541-1 MS	BAW-1	Total/NA	Water	SM 4500 SO4 E	
400-151541-1 MSD	BAW-1	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 393877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	Field Sampling	
400-151541-2	BAW-2A	Total/NA	Water	Field Sampling	
400-151541-3	BAW-3	Total/NA	Water	Field Sampling	
400-151541-4	BAW-4	Total/NA	Water	Field Sampling	
400-151541-5	BAW-5	Total/NA	Water	Field Sampling	
400-151541-6	BAW-7	Total/NA	Water	Field Sampling	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-392993/1-A ^5
Matrix: Water
Analysis Batch: 393373

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/06/18 12:38	04/10/18 03:18	5
Arsenic	<0.00046	^	0.0013	0.00046	mg/L		04/06/18 12:38	04/10/18 03:18	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/06/18 12:38	04/10/18 03:18	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:18	5
Boron	<0.021	^	0.050	0.021	mg/L		04/06/18 12:38	04/10/18 03:18	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/06/18 12:38	04/10/18 03:18	5
Calcium	<0.13		0.25	0.13	mg/L		04/06/18 12:38	04/10/18 03:18	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/06/18 12:38	04/10/18 03:18	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/06/18 12:38	04/10/18 03:18	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/06/18 12:38	04/10/18 03:18	5
Lithium	<0.0011	^	0.0050	0.0011	mg/L		04/06/18 12:38	04/10/18 03:18	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/06/18 12:38	04/10/18 03:18	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/06/18 12:38	04/10/18 03:18	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/06/18 12:38	04/10/18 03:18	5

Lab Sample ID: LCS 400-392993/2-A
Matrix: Water
Analysis Batch: 393442

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0507		mg/L		101	80 - 120
Arsenic	0.0500	0.0513		mg/L		103	80 - 120
Barium	0.0500	0.0498		mg/L		100	80 - 120
Beryllium	0.0500	0.0506		mg/L		101	80 - 120
Boron	0.100	0.100		mg/L		100	80 - 120
Cadmium	0.0500	0.0516		mg/L		103	80 - 120
Calcium	5.00	5.28		mg/L		106	80 - 120
Chromium	0.0500	0.0531		mg/L		106	80 - 120
Cobalt	0.0500	0.0538		mg/L		108	80 - 120
Lead	0.0500	0.0513		mg/L		103	80 - 120
Lithium	0.0500	0.0493		mg/L		99	80 - 120
Molybdenum	0.0500	0.0516		mg/L		103	80 - 120
Selenium	0.0500	0.0506		mg/L		101	80 - 120
Thallium	0.0100	0.0103		mg/L		103	80 - 120

Lab Sample ID: 400-151541-5 MS
Matrix: Water
Analysis Batch: 393373

Client Sample ID: BAW-5
Prep Type: Total Recoverable
Prep Batch: 392993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0010		0.0500	0.0551		mg/L		110	75 - 125
Arsenic	0.0017	^ F1	0.0500	0.0647	^ F1	mg/L		126	75 - 125
Barium	0.043		0.0500	0.0918		mg/L		99	75 - 125
Beryllium	<0.00034	^	0.0500	0.0575	^	mg/L		115	75 - 125
Boron	0.23	^ F1	0.100	0.353	^ F1	mg/L		127	75 - 125
Cadmium	<0.00034		0.0500	0.0496		mg/L		99	75 - 125
Calcium	16	F1	5.00	19.4	F1	mg/L		62	75 - 125
Chromium	0.0050		0.0500	0.0441		mg/L		78	75 - 125

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-151541-5 MS
Matrix: Water
Analysis Batch: 393373

Client Sample ID: BAW-5
Prep Type: Total Recoverable
Prep Batch: 392993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	<0.00040		0.0500	0.0462		mg/L		92	75 - 125
Lead	<0.00035		0.0500	0.0515		mg/L		103	75 - 125
Lithium	0.25	^	0.0500	0.301	^ 4	mg/L		112	75 - 125
Molybdenum	<0.00085		0.0500	0.0503		mg/L		101	75 - 125
Selenium	<0.00024		0.0500	0.0497		mg/L		99	75 - 125
Thallium	<0.000085		0.0100	0.00950		mg/L		95	75 - 125

Lab Sample ID: 400-151541-5 MSD
Matrix: Water
Analysis Batch: 393373

Client Sample ID: BAW-5
Prep Type: Total Recoverable
Prep Batch: 392993

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0010		0.0500	0.0546		mg/L		109	75 - 125	1	20
Arsenic	0.0017	^ F1	0.0500	0.0640	^	mg/L		125	75 - 125	1	20
Barium	0.043		0.0500	0.0932		mg/L		101	75 - 125	1	20
Beryllium	<0.00034	^	0.0500	0.0567	^	mg/L		113	75 - 125	1	20
Boron	0.23	^ F1	0.100	0.351	^	mg/L		125	75 - 125	1	20
Cadmium	<0.00034		0.0500	0.0519		mg/L		104	75 - 125	5	20
Calcium	16	F1	5.00	19.3	F1	mg/L		61	75 - 125	0	20
Chromium	0.0050		0.0500	0.0443		mg/L		79	75 - 125	1	20
Cobalt	<0.00040		0.0500	0.0459		mg/L		92	75 - 125	1	20
Lead	<0.00035		0.0500	0.0510		mg/L		102	75 - 125	1	20
Lithium	0.25	^	0.0500	0.303	^ 4	mg/L		115	75 - 125	1	20
Molybdenum	<0.00085		0.0500	0.0487		mg/L		97	75 - 125	3	20
Selenium	<0.00024		0.0500	0.0470		mg/L		94	75 - 125	6	20
Thallium	<0.000085		0.0100	0.00948		mg/L		95	75 - 125	0	20

Lab Sample ID: MB 400-393138/1-A ^5
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 393138

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/08/18 13:04	04/11/18 00:24	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/08/18 13:04	04/11/18 00:24	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/08/18 13:04	04/11/18 00:24	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 00:24	5
Boron	<0.021		0.050	0.021	mg/L		04/08/18 13:04	04/11/18 00:24	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/08/18 13:04	04/11/18 00:24	5
Calcium	<0.13		0.25	0.13	mg/L		04/08/18 13:04	04/11/18 00:24	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/08/18 13:04	04/11/18 00:24	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/08/18 13:04	04/11/18 00:24	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/08/18 13:04	04/11/18 00:24	5
Lithium	<0.0011		0.0050	0.0011	mg/L		04/08/18 13:04	04/11/18 00:24	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/08/18 13:04	04/11/18 00:24	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/08/18 13:04	04/11/18 00:24	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/08/18 13:04	04/11/18 00:24	5

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 400-393138/2-A
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 393138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0484		mg/L		97	80 - 120
Arsenic	0.0500	0.0481		mg/L		96	80 - 120
Barium	0.0500	0.0480		mg/L		96	80 - 120
Beryllium	0.0500	0.0543		mg/L		109	80 - 120
Boron	0.100	0.0988		mg/L		99	80 - 120
Cadmium	0.0500	0.0482		mg/L		96	80 - 120
Calcium	5.00	4.91		mg/L		98	80 - 120
Chromium	0.0500	0.0493		mg/L		99	80 - 120
Cobalt	0.0500	0.0491		mg/L		98	80 - 120
Lead	0.0500	0.0462		mg/L		92	80 - 120
Lithium	0.0500	0.0493		mg/L		99	80 - 120
Molybdenum	0.0500	0.0477		mg/L		95	80 - 120
Selenium	0.0500	0.0463		mg/L		93	80 - 120
Thallium	0.0100	0.00924		mg/L		92	80 - 120

Lab Sample ID: 400-151514-C-4-B MS ^5
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 393138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0010		0.0500	0.0512		mg/L		102	75 - 125
Arsenic	<0.00046		0.0500	0.0490		mg/L		98	75 - 125
Barium	0.093		0.0500	0.141		mg/L		96	75 - 125
Beryllium	<0.00034		0.0500	0.0533		mg/L		107	75 - 125
Boron	0.15		0.100	0.244		mg/L		98	75 - 125
Cadmium	<0.00034		0.0500	0.0481		mg/L		96	75 - 125
Calcium	31		5.00	34.7	4	mg/L		83	75 - 125
Chromium	<0.0011		0.0500	0.0501		mg/L		100	75 - 125
Cobalt	<0.00040		0.0500	0.0502		mg/L		100	75 - 125
Lead	<0.00035		0.0500	0.0463		mg/L		93	75 - 125
Lithium	0.0077		0.0500	0.0556		mg/L		96	75 - 125
Molybdenum	<0.00085		0.0500	0.0484		mg/L		97	75 - 125
Selenium	<0.00024		0.0500	0.0490		mg/L		98	75 - 125
Thallium	<0.000085		0.0100	0.00928		mg/L		93	75 - 125

Lab Sample ID: 400-151514-C-4-C MSD ^5
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 393138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0010		0.0500	0.0505		mg/L		101	75 - 125	1	20
Arsenic	<0.00046		0.0500	0.0502		mg/L		100	75 - 125	2	20
Barium	0.093		0.0500	0.141		mg/L		97	75 - 125	0	20
Beryllium	<0.00034		0.0500	0.0542		mg/L		108	75 - 125	2	20
Boron	0.15		0.100	0.237		mg/L		91	75 - 125	3	20
Cadmium	<0.00034		0.0500	0.0491		mg/L		98	75 - 125	2	20
Calcium	31		5.00	34.6	4	mg/L		80	75 - 125	0	20
Chromium	<0.0011		0.0500	0.0509		mg/L		102	75 - 125	2	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-151514-C-4-C MSD ^5
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 393138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	<0.00040		0.0500	0.0506		mg/L		101	75 - 125	1	20
Lead	<0.00035		0.0500	0.0476		mg/L		95	75 - 125	3	20
Lithium	0.0077		0.0500	0.0552		mg/L		95	75 - 125	1	20
Molybdenum	<0.00085		0.0500	0.0479		mg/L		96	75 - 125	1	20
Selenium	<0.00024		0.0500	0.0471		mg/L		94	75 - 125	4	20
Thallium	<0.000085		0.0100	0.00931		mg/L		93	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-393526/14-A
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 11:34	04/12/18 12:23	1

Lab Sample ID: LCS 400-393526/15-A
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000976		mg/L		97	80 - 120

Lab Sample ID: 400-151582-N-3-E MS
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 393526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.000070		0.00201	0.00176		mg/L		87	80 - 120

Lab Sample ID: 400-151582-N-3-F MSD
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 393526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.000070		0.00201	0.00183		mg/L		91	80 - 120	4	20

Lab Sample ID: MB 400-393556/14-A
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393556

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 13:09	04/12/18 14:56	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 400-393556/15-A
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393556

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000964		mg/L		96	80 - 120

Lab Sample ID: 400-151514-C-4-E MS
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 393556

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.000070		0.00201	0.00191		mg/L		95	80 - 120

Lab Sample ID: 400-151514-C-4-F MSD
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 393556

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.000070		0.00201	0.00190		mg/L		94	80 - 120	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-392529/1
Matrix: Water
Analysis Batch: 392529

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			04/03/18 13:23	1

Lab Sample ID: LCS 400-392529/2
Matrix: Water
Analysis Batch: 392529

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	276		mg/L		94	78 - 122

Lab Sample ID: 400-151496-C-4 DU
Matrix: Water
Analysis Batch: 392529

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	190		192		mg/L		0	5

Lab Sample ID: MB 400-392677/1
Matrix: Water
Analysis Batch: 392677

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			04/04/18 16:33	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 400-392677/2
Matrix: Water
Analysis Batch: 392677

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	278		mg/L		95	78 - 122

Lab Sample ID: 400-151541-3 DU
Matrix: Water
Analysis Batch: 392677

Client Sample ID: BAW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	36		36.0		mg/L		0	5

Lab Sample ID: MB 400-392678/1
Matrix: Water
Analysis Batch: 392678

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			04/04/18 17:07	1

Lab Sample ID: LCS 400-392678/2
Matrix: Water
Analysis Batch: 392678

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	290		mg/L		99	78 - 122

Lab Sample ID: 400-151461-B-17 DU
Matrix: Water
Analysis Batch: 392678

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	78		76.0		mg/L		3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-392853/6
Matrix: Water
Analysis Batch: 392853

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.989	J	2.0	0.60	mg/L			04/05/18 11:58	1

Lab Sample ID: LCS 400-392853/7
Matrix: Water
Analysis Batch: 392853

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

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: MRL 400-392853/3
Matrix: Water
Analysis Batch: 392853

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	2.39		mg/L		120	50 - 150		

Lab Sample ID: 400-151541-1 MS
Matrix: Water
Analysis Batch: 392853

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	5.7	B	10.0	16.2		mg/L		105	73 - 120		

Lab Sample ID: 400-151541-1 MSD
Matrix: Water
Analysis Batch: 392853

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.7	B	10.0	16.2		mg/L		106	73 - 120	0	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-392503/3
Matrix: Water
Analysis Batch: 392503

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			04/03/18 10:49	1

Lab Sample ID: LCS 400-392503/4
Matrix: Water
Analysis Batch: 392503

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: 400-151541-1 MS
Matrix: Water
Analysis Batch: 392503

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	<0.032		1.00	1.10		mg/L		110	75 - 125		

Lab Sample ID: 400-151541-1 MSD
Matrix: Water
Analysis Batch: 392503

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.032		1.00	1.10		mg/L		110	75 - 125	0	4

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-151541-8 DU
Matrix: Water
Analysis Batch: 392503

Client Sample ID: DUP-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	<0.032			<0.032		mg/L				NC	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-393183/6
Matrix: Water
Analysis Batch: 393183

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			04/09/18 08:36	1

Lab Sample ID: LCS 400-393183/7
Matrix: Water
Analysis Batch: 393183

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		

Lab Sample ID: MRL 400-393183/3
Matrix: Water
Analysis Batch: 393183

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	4.38	J	mg/L		88	50 - 150		

Lab Sample ID: 400-151541-1 MS
Matrix: Water
Analysis Batch: 393183

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	<1.4		10.0	10.9		mg/L		109	77 - 128		

Lab Sample ID: 400-151541-1 MSD
Matrix: Water
Analysis Batch: 393183

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	<1.4		10.0	11.1		mg/L		111	77 - 128	2	5

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	Sampler: Rick Hagendorfer	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-65745-24533.1
Client Contact: Mr. Cale Sellers	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Southern Company				Job #:
Address: PO BOX 2641 GSC8	Due Date Requested:			
City: Birmingham	TAT Requested (days):			
State, Zip: AL, 35291				
Phone: 205-992-7762(Tel)	PO #: SCS10347656			
Email: CBSELLER@SOUTHERNCO.COM	WO #:			
Project Name: CCR -Plant Daniel	Project #: 40006621			
Site: Mississippi	SSOW#:			

Analysis Requested

Preservation Codes:

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)

Other:

400-151541 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 4500_F_C - Fluoride, 2540C - Total Dissolved Solids	6020 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
BAW-1	3-28-18	1550	G	Water			X	X	X	3	
BAW-2A	3-28-18	1434	G	Water			X	X	X	3	
BAW-3	3-28-18	1216	G	Water			X	X	X	3	
BAW-4	3-28-18	1107	G	Water			X	X	X	3	
BAW-5	3-28-18	1012	G	Water			X	X	X	3	
BAW-7	3-29-18	1142	G	Water			X	X	X	3	
Dup-01	3-28-18	1116	G				X	X	X	3	
Dup-02	3-29-18	0700	G				X	X	X	3	
EB-01	3-28-18	1335	G				X	X	X	3	
~~RQE~~ FB-01	3-28-18	1347	G				X	X	X	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
		3-29-18 1705	AOH ENV.			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3-29-18 1705	Company TA-PEN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.0°C, 2.1°C IR8

Ver: 08/04/2016

4/13/2018

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151541-1
SDG Number: Bottom Ash

Login Number: 151541
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0°C IR8, 2.1°C IR8
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: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-1
SDG: Bottom Ash

Laboratory: TestAmerica Pensacola

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

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

* 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: 400-151541-2
TestAmerica Sample Delivery Group: Bottom Ash
Client Project/Site: CCR -Plant Daniel

For:
Southern Company
PO BOX 2641 GSC8
Birmingham, Alabama 35291

Attn: Mr. Cale B. Sellers

Cheyenne R Whitmire

Authorized for release by:
4/30/2018 11:35:52 AM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

Table of Contents

Job ID: 400-151541-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151541-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-358523: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: BAW-1 (400-151541-1), BAW-2A (400-151541-2), BAW-3 (400-151541-3), BAW-4 (400-151541-4), BAW-5 (400-151541-5), BAW-7 (400-151541-6), DUP-01 (400-151541-7), DUP-02 (400-151541-8), EB-01 (400-151541-9) and FB-01 (400-151541-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-358517: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: BAW-1 (400-151541-1), BAW-2A (400-151541-2), BAW-3 (400-151541-3), BAW-4 (400-151541-4), BAW-5 (400-151541-5), BAW-7 (400-151541-6), DUP-01 (400-151541-7), DUP-02 (400-151541-8), EB-01 (400-151541-9) and FB-01 (400-151541-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151541-1	BAW-1	Water	03/28/18 15:50	03/29/18 17:05
400-151541-2	BAW-2A	Water	03/28/18 14:34	03/29/18 17:05
400-151541-3	BAW-3	Water	03/28/18 12:16	03/29/18 17:05
400-151541-4	BAW-4	Water	03/28/18 11:07	03/29/18 17:05
400-151541-5	BAW-5	Water	03/28/18 10:12	03/29/18 17:05
400-151541-6	BAW-7	Water	03/29/18 11:42	03/29/18 17:05
400-151541-7	DUP-01	Water	03/28/18 11:16	03/29/18 17:05
400-151541-8	DUP-02	Water	03/29/18 07:00	03/29/18 17:05
400-151541-9	EB-01	Water	03/28/18 13:35	03/29/18 17:05
400-151541-10	FB-01	Water	03/28/18 13:47	03/29/18 17:05

Client Sample ID: BAW-1

Date Collected: 03/28/18 15:50
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-1

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.205		0.0745	0.0767	1.00	0.0627	pCi/L	04/02/18 13:49	04/24/18 15:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.113	U	0.199	0.199	1.00	0.338	pCi/L	04/02/18 14:08	04/09/18 17:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:00*	*1*
Y Carrier	*90.1*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:00*	*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	0.318	U	0.212	0.213	5.00	0.338	pCi/L		04/26/18 18:05	1

Client Sample ID: BAW-2A

Date Collected: 03/28/18 14:34
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-2

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.102		0.0642	0.0649	1.00	0.0836	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.527		0.270	0.275	1.00	0.403	pCi/L	04/02/18 14:08	04/09/18 17:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:00*	*1*
Y Carrier	*87.1*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:00*	*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	0.629		0.278	0.283	5.00	0.403	pCi/L		04/26/18 18:05	1

Client Sample ID: BAW-3

Date Collected: 03/28/18 12:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.107**		0.0684	0.0691	1.00	0.0919	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.291	U	0.225	0.227	1.00	0.356	pCi/L	04/02/18 14:08	04/09/18 17:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:00*	*1*
Y Carrier	*92.0*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:00*	*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	**0.398**		0.235	0.237	5.00	0.356	pCi/L		04/26/18 18:05	1

Client Sample ID: BAW-4

Date Collected: 03/28/18 11:07
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-4

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0556	U	0.0482	0.0485	1.00	0.0706	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.365**		0.202	0.205	1.00	0.300	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*94.6*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	**0.420**		0.208	0.211	5.00	0.300	pCi/L		04/26/18 18:05	1

Client Sample ID: BAW-5

Date Collected: 03/28/18 10:12
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.163**		0.0677	0.0692	1.00	0.0618	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.296	U	0.207	0.209	1.00	0.320	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*90.1*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	**0.458**		0.218	0.220	5.00	0.320	pCi/L		04/26/18 18:05	1

Client Sample ID: BAW-7

Date Collected: 03/29/18 11:42
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-6

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.192		0.0747	0.0767	1.00	0.0730	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.539		0.259	0.263	1.00	0.384	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*92.7*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	0.731		0.270	0.274	5.00	0.384	pCi/L		04/26/18 18:05	1

Client Sample ID: DUP-01

Date Collected: 03/28/18 11:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.100		0.0570	0.0578	1.00	0.0668	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.159	U	0.209	0.210	1.00	0.348	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*90.5*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	0.259	U	0.217	0.218	5.00	0.348	pCi/L		04/26/18 18:05	1

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Client Sample ID: DUP-02

Date Collected: 03/29/18 07:00
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-8

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.145		0.0649	0.0662	1.00	0.0657	pCi/L	04/02/18 13:49	04/24/18 15:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.335		0.209	0.212	1.00	0.321	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*96.8*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	0.480		0.219	0.222	5.00	0.321	pCi/L		04/26/18 18:05	1

Client Sample ID: EB-01

Date Collected: 03/28/18 13:35
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-9

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00236	U	0.0390	0.0390	1.00	0.0807	pCi/L	04/02/18 13:49	04/24/18 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.277	U	0.229	0.230	1.00	0.365	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*92.3*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	0.232	0.233	5.00	0.365	pCi/L		04/26/18 18:05	1

Client Sample ID: FB-01

Date Collected: 03/28/18 13:47
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-10

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00939	U	0.0366	0.0366	1.00	0.0727	pCi/L	04/02/18 13:49	04/24/18 15:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.194	U	0.186	0.187	1.00	0.301	pCi/L	04/02/18 14:08	04/09/18 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*1*
Y Carrier	*92.3*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:01*	*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	0.190	0.191	5.00	0.301	pCi/L		04/26/18 18:05	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	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: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Client Sample ID: BAW-1
Date Collected: 03/28/18 15:50
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:55	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:00	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: BAW-2A
Date Collected: 03/28/18 14:34
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:00	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: BAW-3
Date Collected: 03/28/18 12:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:00	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: BAW-4
Date Collected: 03/28/18 11:07
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Client Sample ID: BAW-5
Date Collected: 03/28/18 10:12
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: BAW-7
Date Collected: 03/29/18 11:42
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: DUP-01
Date Collected: 03/28/18 11:16
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: DUP-02
Date Collected: 03/29/18 07:00
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:56	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Client Sample ID: EB-01

Date Collected: 03/28/18 13:35
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Client Sample ID: FB-01

Date Collected: 03/28/18 13:47
Date Received: 03/29/18 17:05

Lab Sample ID: 400-151541-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358517	04/02/18 13:49	TJT	TAL SL
Total/NA	Analysis	9315		1	362310	04/24/18 15:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			358523	04/02/18 14:08	TJT	TAL SL
Total/NA	Analysis	9320		1	359688	04/09/18 17:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362952	04/26/18 18:05	RTM	TAL SL

Laboratory References:

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

Rad

Prep Batch: 358517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	PrecSep-21	
400-151541-2	BAW-2A	Total/NA	Water	PrecSep-21	
400-151541-3	BAW-3	Total/NA	Water	PrecSep-21	
400-151541-4	BAW-4	Total/NA	Water	PrecSep-21	
400-151541-5	BAW-5	Total/NA	Water	PrecSep-21	
400-151541-6	BAW-7	Total/NA	Water	PrecSep-21	
400-151541-7	DUP-01	Total/NA	Water	PrecSep-21	
400-151541-8	DUP-02	Total/NA	Water	PrecSep-21	
400-151541-9	EB-01	Total/NA	Water	PrecSep-21	
400-151541-10	FB-01	Total/NA	Water	PrecSep-21	
MB 160-358517/13-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-358517/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-358517/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 358523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151541-1	BAW-1	Total/NA	Water	PrecSep_0	
400-151541-2	BAW-2A	Total/NA	Water	PrecSep_0	
400-151541-3	BAW-3	Total/NA	Water	PrecSep_0	
400-151541-4	BAW-4	Total/NA	Water	PrecSep_0	
400-151541-5	BAW-5	Total/NA	Water	PrecSep_0	
400-151541-6	BAW-7	Total/NA	Water	PrecSep_0	
400-151541-7	DUP-01	Total/NA	Water	PrecSep_0	
400-151541-8	DUP-02	Total/NA	Water	PrecSep_0	
400-151541-9	EB-01	Total/NA	Water	PrecSep_0	
400-151541-10	FB-01	Total/NA	Water	PrecSep_0	
MB 160-358523/13-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-358523/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-358523/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-358517/13-A
Matrix: Water
Analysis Batch: 362310

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358517

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01390	U	0.0365	0.0365	1.00	0.0692	pCi/L	04/02/18 13:49	04/24/18 15:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*04/02/18 13:49*	*04/24/18 15:57*	*1*

Lab Sample ID: LCS 160-358517/1-A
Matrix: Water
Analysis Batch: 362310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358517

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.38		1.05	1.00	0.0710	pCi/L	88	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*

Lab Sample ID: LCSD 160-358517/2-A
Matrix: Water
Analysis Batch: 362310

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358517

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.10		1.03	1.00	0.0869	pCi/L	86	68 - 137	0.13	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-358523/13-A
Matrix: Water
Analysis Batch: 359688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358523

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3721		0.224	0.226	1.00	0.344	pCi/L	04/02/18 14:08	04/09/18 17:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:02*	*1*
Y Carrier	*97.9*		*40 - 110*	*04/02/18 14:08*	*04/09/18 17:02*	*1*

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

Lab Sample ID: LCS 160-358523/1-A
Matrix: Water
Analysis Batch: 359688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358523

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.41	8.864		1.02	1.00	0.334	pCi/L	105	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

Lab Sample ID: LCSD 160-358523/2-A
Matrix: Water
Analysis Batch: 359688

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358523

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.41	8.615		1.00	1.00	0.339	pCi/L	102	56 - 140	0.12	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*90.5*		*40 - 110*

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	Sampler: Rick Hagendorfer	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-65745-24533.1
Client Contact: Mr. Cale Sellers	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Southern Company				Job #:
Address: PO BOX 2641 GSC8	Due Date Requested:			
City: Birmingham	TAT Requested (days):			
State, Zip: AL, 35291				
Phone: 205-992-7762(Tel)	PO #: SCS10347656			
Email: CBSELLER@SOUTHERNCO.COM	WO #:			
Project Name: CCR -Plant Daniel	Project #: 40006621			
Site: Mississippi	SSOW#:			

Analysis Requested

Preservation Codes:

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)

Other:

400-151541 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 4500_F_C - Fluoride, 2540C - Total Dissolved Solids	6020 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
BAW-1	3-28-18	1550	G	Water			X	X	X	3	
BAW-2A	3-28-18	1434	G	Water			X	X	X	3	
BAW-3	3-28-18	1216	G	Water			X	X	X	3	
BAW-4	3-28-18	1107	G	Water			X	X	X	3	
BAW-5	3-28-18	1012	G	Water			X	X	X	3	
BAW-7	3-29-18	1142	G	Water			X	X	X	3	
Dup-01	3-28-18	1116	G				X	X	X	3	
Dup-02	3-29-18	0700	G				X	X	X	3	
EB-01	3-28-18	1335	G				X	X	X	3	
~~RQE~~ FB-01	3-28-18	1347	G				X	X	X	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
		3-29-18 1705	AOH ENV.			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3-29-18 1705	Company TA-PEN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.0°C, 2.1°C IR8

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151541-2
SDG Number: Bottom Ash

Login Number: 151541
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0°C IR8, 2.1°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151541-2
SDG Number: Bottom Ash

Login Number: 151541
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/31/18 09:57 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	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.	True	22.0,22.0,22.0,22.0,22.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

Laboratory: TestAmerica Pensacola

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

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

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18 *
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18 *
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18
Michigan	State Program	5	9005	06-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542018-1	07-31-18

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

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-151541-2
SDG: Bottom Ash

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
New Jersey	NELAP	2	MO002	06-30-18 *
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18 *
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

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

Product Name: Low-Flow System

Date: 2018-03-28 15:50:15

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	61 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	58.1 ft

Well Information:		Pumping Information:	
Well ID	BAW-1	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7522688 L
Well Total Depth	60.6 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	1 in
Depth to Water	23.14 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	15:33:17	300.02	27.43	4.85	33.88	0.16	23.23	4.38	79.39
Last 5	15:38:16	599.96	27.32	4.82	33.99	0.41	23.23	4.43	83.04
Last 5	15:43:16	899.96	27.27	4.83	34.08	0.57	23.24	4.45	87.25
Last 5	15:48:16	1199.96	27.20	4.87	34.26	0.63	23.25	4.44	90.17
Last 5									
Variance 0			-0.11	-0.04	0.11			0.05	3.65
Variance 1			-0.05	0.01	0.10			0.02	4.21
Variance 2			-0.07	0.04	0.18			-0.01	2.92

Notes

Sample time 1550. Cloudy 75.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-28 14:36:08

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	69 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	62.2 ft

Well Information:		Pumping Information:	
Well ID	BAW-2A	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7879762 L
Well Total Depth	67.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.5 in
Depth to Water	32.50 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	14:12:12	600.02	28.04	5.26	43.99	4.27	32.56	1.67	82.99
Last 5	14:17:12	900.02	28.07	5.31	44.74	3.11	32.56	1.45	86.23
Last 5	14:22:12	1200.02	27.89	5.35	45.56	1.54	32.56	1.37	89.15
Last 5	14:27:12	1500.03	27.85	5.37	46.10	1.22	32.56	1.31	91.93
Last 5	14:32:12	1800.02	27.84	5.39	46.57	0.93	32.56	1.28	94.50
Variance 0			-0.18	0.04	0.82			-0.08	2.91
Variance 1			-0.04	0.02	0.54			-0.06	2.79
Variance 2			-0.01	0.02	0.47			-0.03	2.57

Notes

Sample time 1434. Cloudy 72. EB-01 sample time 1335. FB-01 sample time 1347.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-28 12:16:58

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	63.4 ft

Well Information:		Pumping Information:	
Well ID	BAW-3	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8013664 L
Well Total Depth	68.4 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	32.10 ft	Total Volume Pumped	14 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	11:48:43	600.02	27.75	4.94	47.45	4.95	32.21	0.28	95.86
Last 5	11:58:43	1199.93	27.64	4.94	47.21	2.94	32.21	0.26	102.79
Last 5	12:03:43	1499.92	27.39	4.93	47.09	2.53	32.21	0.26	104.95
Last 5	12:08:43	1799.93	27.38	4.94	47.40	1.74	32.21	0.26	107.48
Last 5	12:13:43	2099.93	27.36	4.93	47.09	1.69	32.21	0.25	109.00
Variance 0			-0.24	-0.01	-0.12			-0.01	2.16
Variance 1			-0.02	0.01	0.31			0.00	2.53
Variance 2			-0.02	-0.01	-0.31			-0.01	1.53

Notes

Sample time 1216. Dup-01 fake sample time 1116. Cloudy 76.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-28 11:07:15

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	64.9 ft

Well Information:		Pumping Information:	
Well ID	BAW-4	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8013664 L
Well Total Depth	69.9 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	29.71 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	10:54:12	600.03	26.14	5.31	44.31	0.78	29.81	0.11	51.68
Last 5	10:59:12	900.02	26.10	5.25	44.27	0.75	29.81	0.10	54.49
Last 5	11:04:12	1200.03	26.05	5.23	44.42	1.00	29.81	0.11	56.91
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.04	-0.06	-0.04			-0.01	2.81
Variance 2			-0.05	-0.03	0.15			0.00	2.41

Notes

Sample time 1107. Cloudy 75.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-28 10:12:04

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	67 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	64.1 ft

Well Information:		Pumping Information:	
Well ID	BAW-5	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7790493 L
Well Total Depth	69.1 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	33.19 ft	Total Volume Pumped	18 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	09:49:17	1500.02	25.91	6.18	133.24	2.60	33.30	0.12	24.81
Last 5	09:54:17	1800.02	25.94	6.20	133.11	3.15	33.30	0.12	22.05
Last 5	09:59:17	2100.02	25.87	6.21	133.40	2.63	33.30	0.13	18.43
Last 5	10:04:17	2400.02	26.06	6.21	132.96	2.51	33.30	0.14	15.46
Last 5	10:09:17	2699.99	26.03	6.22	132.91	2.29	33.30	0.14	13.52
Variance 0			-0.07	0.01	0.29			0.01	-3.62
Variance 1			0.19	0.00	-0.44			0.00	-2.97
Variance 2			-0.03	0.01	-0.04			-0.00	-1.93

Notes

Sample time 1012. Cloudy 72.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 11:43:39

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	63 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	58.5 ft

Well Information:		Pumping Information:	
Well ID	BAW-7	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7611957 L
Well Total Depth	63.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1 in
Depth to Water	26.64 ft	Total Volume Pumped	108 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	11:19:07	15003.89	27.38	4.87	32.09	6.96	26.77	3.44	166.80
Last 5	11:24:07	15303.89	27.66	4.88	32.06	7.29	26.77	3.42	166.21
Last 5	11:29:07	15603.89	27.52	4.88	32.07	7.08	26.77	3.42	167.70
Last 5	11:34:11	15907.88	27.33	4.88	32.15	6.80	26.77	3.42	167.01
Last 5	11:39:11	16207.89	27.38	4.87	32.15	6.88	26.77	3.42	165.98
Variance 0			-0.15	0.00	0.01			0.00	1.49
Variance 1			-0.18	0.00	0.08			0.01	-0.69
Variance 2			0.05	-0.01	-0.00			-0.01	-1.03

Notes

Sample time 1142. Dup-02 fake sample time 0700. Cloudy 78.

Grab Samples

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: 400-154586-1
TestAmerica Sample Delivery Group: Bottom Ash Pond
Client Project/Site: CCR -Plant Daniel

For:
Southern Company
PO BOX 2641 GSC8
Birmingham, Alabama 35291

Attn: Mr. Cale B. Sellers

Cheyenne R Whitmire

Authorized for release by:
7/16/2018 2:01:04 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

Table of Contents

Job ID: 400-154586-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154586-1

RAD

Method(s) 9320: Radium-228 Prep Batch 160-369296. The laboratory control sample duplicate (LCSD) recovery (148%) associated with the following samples is outside the upper QC limit of 140% indicating a potential positive bias for that analyte. This analyte was not observed above the RL in the associated samples; therefore the sample data is not adversely affected by this excursion. In addition, the following samples have an RER (replicate error ratio) result outside of the acceptance criteria of 1 (1.16). Duplicate precision is demonstrated by acceptable relative percent difference (RPD), within the limit of 40% (28%). The data have been reported with this narrative. BAW-1 (400-154586-1), BAW-2A (400-154586-2), BAW-3 (400-154586-3), BAW-4 (400-154586-4), BAW-5 (400-154586-5), BAW-7 (400-154586-6), DUP-01 (400-154586-7), EB-01 (400-154586-8), FB-01 (400-154586-9), (LCS 160-369296/1-A), (LCSD 160-369296/2-A) and (MB 160-369296/23-A)

Method(s) PrecSep_0: Radium 228 Prep Batch 160-369296: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: BAW-1 (400-154586-1), BAW-2A (400-154586-2), BAW-3 (400-154586-3), BAW-4 (400-154586-4), BAW-5 (400-154586-5), BAW-7 (400-154586-6), DUP-01 (400-154586-7), EB-01 (400-154586-8) and FB-01 (400-154586-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-369289: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: BAW-1 (400-154586-1), BAW-2A (400-154586-2), BAW-3 (400-154586-3), BAW-4 (400-154586-4), BAW-5 (400-154586-5), BAW-7 (400-154586-6), DUP-01 (400-154586-7), EB-01 (400-154586-8) and FB-01 (400-154586-9). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-1 — Lab Sample ID: 400-154586-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.033		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.93		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0010	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0017	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00064	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	6.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.9	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.92				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-2A — Lab Sample ID: 400-154586-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.032		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.71		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00090	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0021	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	26		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.8		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	3.0	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.06				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-3 — Lab Sample ID: 400-154586-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.029		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.0010	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	0.86		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0068		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0020	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00031	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	6.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	7.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	2.9	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.83				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-4 — Lab Sample ID: 400-154586-4

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-4 (Continued) — Lab Sample ID: 400-154586-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00068	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.0087		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.025	J	0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	2.9		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0012	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.022		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	22		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.050	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	3.7	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.22				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-5 — Lab Sample ID: 400-154586-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0017		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.043		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.16		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	15		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.19		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	72		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	8.3		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	4.3	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.24				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-7 — Lab Sample ID: 400-154586-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.60		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00087	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0029	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Chloride	4.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	2.8	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.87				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 400-154586-7

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUP-01 (Continued) — Lab Sample ID: 400-154586-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.033		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.95		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0010	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0017	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	8.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	2.2	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 400-154586-8

No Detections.

Client Sample ID: FB-01 — Lab Sample ID: 400-154586-9

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
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
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
Field Sampling	Field Sampling	EPA	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
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 PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001
TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154586-1	BAW-1	Water	06/02/18 17:30	06/04/18 09:25
400-154586-2	BAW-2A	Water	06/02/18 18:55	06/04/18 09:25
400-154586-3	BAW-3	Water	06/02/18 11:55	06/04/18 09:25
400-154586-4	BAW-4	Water	06/02/18 17:46	06/04/18 09:25
400-154586-5	BAW-5	Water	06/02/18 10:43	06/04/18 09:25
400-154586-6	BAW-7	Water	06/02/18 16:30	06/04/18 09:25
400-154586-7	DUP-01	Water	06/02/18 16:30	06/04/18 09:25
400-154586-8	EB-01	Water	06/02/18 17:50	06/04/18 09:25
400-154586-9	FB-01	Water	06/02/18 18:10	06/04/18 09:25

Client Sample ID: BAW-1

Date Collected: 06/02/18 17:30
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-1

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 21:50	5
Barium	**0.033**		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 21:50	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 21:50	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 21:50	5
Calcium	**0.93**		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 21:50	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 21:50	5
Cobalt	**0.0010**	**J**	0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 21:50	5
Lithium	**0.0017**	**J**	0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 21:50	5
Selenium	**0.00064**	**J**	0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 21:50	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6.0**		5.0	3.4	mg/L			06/07/18 15:33	1
Chloride	**4.7**		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	<0.032		0.10	0.032	mg/L			06/05/18 14:20	1
Sulfate	**1.9**	**J**	5.0	1.4	mg/L			06/14/18 11:09	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.152	U	0.123	0.124	1.00	0.176	pCi/L	06/07/18 12:57	06/30/18 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.0*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:59*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0699	U *	0.263	0.263	1.00	0.457	pCi/L	06/07/18 15:06	06/28/18 15:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.0*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:04*	*1*
Y Carrier	*101*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:04*	*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	0.222	U	0.290	0.291	5.00	0.457	pCi/L		07/03/18 14:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.92**				SU			06/02/18 17:30	1

Client Sample ID: BAW-2A

Date Collected: 06/02/18 18:55
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-2

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 22:35	5
Barium	**0.032**		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 22:35	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 22:35	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 22:35	5
Calcium	**0.71**		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 22:35	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 22:35	5
Cobalt	**0.00090**	**J**	0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 22:35	5
Lithium	**0.0021**	**J**	0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 22:35	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 22:35	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**26**		5.0	3.4	mg/L			06/07/18 15:33	1
Chloride	**5.8**		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	<0.032		0.10	0.032	mg/L			06/05/18 14:24	1
Sulfate	**3.0**	**J**	5.0	1.4	mg/L			06/14/18 11:09	1

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	U	0.173	0.173	1.00	0.282	pCi/L	06/07/18 12:57	06/30/18 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*41.0*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:59*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.620	U *	0.425	0.429	1.00	0.873	pCi/L	06/07/18 15:06	06/28/18 15:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*41.0*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:04*	*1*
Y Carrier	*93.5*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:04*	*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	-0.478	U	0.459	0.463	5.00	0.873	pCi/L		07/03/18 14:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.06**				SU			06/02/18 18:55	1

Client Sample ID: BAW-3

Date Collected: 06/02/18 11:55
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-3

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 22:39	5
Barium	**0.029**		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 22:39	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 22:39	5
Cadmium	**0.0010**	**J**	0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 22:39	5
Calcium	**0.86**		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 22:39	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 22:39	5
Cobalt	**0.0068**		0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 22:39	5
Lithium	**0.0020**	**J**	0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 22:39	5
Selenium	**0.00031**	**J**	0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 22:39	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6.0**		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	**7.7**		2.0	0.60	mg/L			06/14/18 15:33	1
Fluoride	<0.032		0.10	0.032	mg/L			06/05/18 14:27	1
Sulfate	**2.9**	**J**	5.0	1.4	mg/L			06/14/18 11:09	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.212	U	0.178	0.179	1.00	0.257	pCi/L	06/07/18 12:57	06/30/18 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*47.8*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:59*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.465	U *	0.380	0.382	1.00	0.758	pCi/L	06/07/18 15:06	06/28/18 15:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*47.8*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*1*
Y Carrier	*95.7*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*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	-0.253	U	0.420	0.422	5.00	0.758	pCi/L		07/03/18 14:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.83**				SU			06/02/18 11:55	1

Client Sample ID: BAW-4

Date Collected: 06/02/18 17:46
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-4

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00068	J	0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 22:44	5
Barium	0.0087		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 22:44	5
Boron	0.025	J	0.050	0.021	mg/L		06/05/18 10:40	06/05/18 22:44	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 22:44	5
Calcium	2.9		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 22:44	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 22:44	5
Cobalt	0.0012	J	0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 22:44	5
Lithium	0.022		0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 22:44	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 22:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	22		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	6.1		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	0.050	J	0.10	0.032	mg/L			06/05/18 14:29	1
Sulfate	3.7	J	5.0	1.4	mg/L			06/14/18 11:09	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0596	U	0.0707	0.0709	1.00	0.195	pCi/L	06/07/18 12:57	06/30/18 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.0*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:59*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.144	U *	0.248	0.248	1.00	0.421	pCi/L	06/07/18 15:06	06/28/18 15:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*74.0*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*1*
Y Carrier	*97.6*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*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	0.0844	U	0.258	0.258	5.00	0.421	pCi/L		07/03/18 14:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.22				SU			06/02/18 17:46	1

Client Sample ID: BAW-5

Date Collected: 06/02/18 10:43
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-5

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0017**		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 22:48	5
Barium	**0.043**		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 22:48	5
Boron	**0.16**		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 22:48	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 22:48	5
Calcium	**15**		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 22:48	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 22:48	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 22:48	5
Lithium	**0.19**		0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 22:48	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 22:48	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**72**		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	**8.3**		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	**0.060**	**J**	0.10	0.032	mg/L			06/05/18 14:31	1
Sulfate	**4.3**	**J**	5.0	1.4	mg/L			06/14/18 11:09	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.159	U	0.119	0.119	1.00	0.163	pCi/L	06/07/18 12:57	06/30/18 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.9*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:59*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0674	U *	0.222	0.222	1.00	0.389	pCi/L	06/07/18 15:06	06/28/18 15:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.9*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*1*
Y Carrier	*96.8*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*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	0.226	U	0.252	0.252	5.00	0.389	pCi/L		07/03/18 14:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.24**				SU			06/02/18 10:43	1

Client Sample ID: BAW-7

Date Collected: 06/02/18 16:30
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-6

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 22:53	5
Barium	**0.011**		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 22:53	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 22:53	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 22:53	5
Calcium	**0.60**		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 22:53	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 22:53	5
Cobalt	**0.00087**	**J**	0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 22:53	5
Lithium	**0.0029**	**J**	0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 22:53	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 22:53	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	**4.6**		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	<0.032		0.10	0.032	mg/L			06/05/18 14:35	1
Sulfate	**2.8**	**J**	5.0	1.4	mg/L			06/14/18 11:15	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.163**		0.116	0.117	1.00	0.158	pCi/L	06/07/18 12:57	06/30/18 17:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:59*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.139	U *	0.244	0.245	1.00	0.413	pCi/L	06/07/18 15:06	06/28/18 15:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*1*
Y Carrier	*94.6*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*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	0.303	U	0.270	0.272	5.00	0.413	pCi/L		07/03/18 14:42	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.87**				SU			06/02/18 16:30	1

Client Sample ID: DUP-01

Date Collected: 06/02/18 16:30
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-7

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 22:57	5
Barium	**0.033**		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 22:57	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 22:57	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 22:57	5
Calcium	**0.95**		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 22:57	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 22:57	5
Cobalt	**0.0010**	**J**	0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 22:57	5
Lithium	**0.0017**	**J**	0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 22:57	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 22:57	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8.0**		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	**5.0**		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	<0.032		0.10	0.032	mg/L			06/05/18 14:38	1
Sulfate	**2.2**	**J**	5.0	1.4	mg/L			06/14/18 11:15	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.227**		0.144	0.146	1.00	0.186	pCi/L	06/07/18 12:57	06/30/18 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.5*		*40 - 110*	*06/07/18 12:57*	*06/30/18 18:00*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.298	U *	0.290	0.292	1.00	0.471	pCi/L	06/07/18 15:06	06/28/18 15:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.5*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*1*
Y Carrier	*99.8*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:06*	*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	**0.524**		0.324	0.326	5.00	0.471	pCi/L		07/03/18 14:42	1

Client Sample ID: EB-01

Date Collected: 06/02/18 17:50
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-8

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 23:02	5
Barium	<0.00049		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 23:02	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 23:02	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 23:02	5
Calcium	<0.13		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 23:02	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 23:02	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 23:02	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 23:02	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 23:02	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	<0.60		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	<0.032		0.10	0.032	mg/L			06/05/18 14:40	1
Sulfate	<1.4		5.0	1.4	mg/L			06/26/18 10:40	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0594	U	0.113	0.113	1.00	0.205	pCi/L	06/07/18 12:57	06/30/18 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.7*		*40 - 110*	*06/07/18 12:57*	*06/30/18 18:00*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.349	U *	0.322	0.323	1.00	0.517	pCi/L	06/07/18 15:06	06/28/18 15:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*63.7*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:07*	*1*
Y Carrier	*94.6*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:07*	*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	0.408	U	0.341	0.342	5.00	0.517	pCi/L		07/03/18 14:42	1

Client Sample ID: FB-01

Date Collected: 06/02/18 18:10
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-9

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 23:06	5
Barium	<0.00049		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 23:06	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 23:06	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 23:06	5
Calcium	<0.13		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 23:06	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 23:06	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 23:06	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 23:06	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 23:06	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/08/18 12:55	1
Chloride	<0.60		2.0	0.60	mg/L			06/14/18 15:39	1
Fluoride	<0.032		0.10	0.032	mg/L			06/06/18 14:05	1
Sulfate	<1.4		5.0	1.4	mg/L			06/26/18 10:41	1

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	0.143	0.143	1.00	0.240	pCi/L	06/07/18 12:57	06/30/18 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.8*		*40 - 110*	*06/07/18 12:57*	*06/30/18 18:00*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.110	U *	0.357	0.358	1.00	0.622	pCi/L	06/07/18 15:06	06/28/18 15:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.8*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:07*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:07*	*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	0.213	U	0.385	0.386	5.00	0.622	pCi/L		07/03/18 14:42	1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
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: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-1
Date Collected: 06/02/18 17:30
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 21:50	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400336	06/07/18 15:33	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:20	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:09	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 17:59	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372930	06/28/18 15:04	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404328	06/02/18 17:30	CDH	TAL PEN

Client Sample ID: BAW-2A
Date Collected: 06/02/18 18:55
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 22:35	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400336	06/07/18 15:33	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:09	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 17:59	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372930	06/28/18 15:04	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404328	06/02/18 18:55	CDH	TAL PEN

Client Sample ID: BAW-3
Date Collected: 06/02/18 11:55
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 22:39	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:33	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:27	BAB	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-3
Date Collected: 06/02/18 11:55
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:09	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 17:59	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:06	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404328	06/02/18 11:55	CDH	TAL PEN

Client Sample ID: BAW-4
Date Collected: 06/02/18 17:46
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 22:44	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:29	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:09	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 17:59	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:06	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404328	06/02/18 17:46	CDH	TAL PEN

Client Sample ID: BAW-5
Date Collected: 06/02/18 10:43
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 22:48	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:31	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:09	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 17:59	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:06	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-5

Date Collected: 06/02/18 10:43
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	404328	06/02/18 10:43	CDH	TAL PEN

Client Sample ID: BAW-7

Date Collected: 06/02/18 16:30
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 22:53	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:35	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:15	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 17:59	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:06	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404328	06/02/18 16:30	CDH	TAL PEN

Client Sample ID: DUP-01

Date Collected: 06/02/18 16:30
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 22:57	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:38	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	401096	06/14/18 11:15	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 18:00	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:06	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Client Sample ID: EB-01

Date Collected: 06/02/18 17:50
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 23:02	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400057	06/05/18 14:40	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402559	06/26/18 10:40	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 18:00	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:07	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL

Client Sample ID: FB-01

Date Collected: 06/02/18 18:10
Date Received: 06/04/18 09:25

Lab Sample ID: 400-154586-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			400016	06/05/18 10:40	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	400109	06/05/18 23:06	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400417	06/08/18 12:55	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	401145	06/14/18 15:39	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400227	06/06/18 14:05	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402559	06/26/18 10:41	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			369289	06/07/18 12:57	JLC	TAL SL
Total/NA	Analysis	9315		1	373288	06/30/18 18:00	ALS	TAL SL
Total/NA	Prep	PrecSep_0			369296	06/07/18 15:06	JLC	TAL SL
Total/NA	Analysis	9320		1	372931	06/28/18 15:07	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	373852	07/03/18 14:42	RTM	TAL SL

Laboratory References:

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

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

Metals

Prep Batch: 400016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total Recoverable	Water	3005A	
400-154586-2	BAW-2A	Total Recoverable	Water	3005A	
400-154586-3	BAW-3	Total Recoverable	Water	3005A	
400-154586-4	BAW-4	Total Recoverable	Water	3005A	
400-154586-5	BAW-5	Total Recoverable	Water	3005A	
400-154586-6	BAW-7	Total Recoverable	Water	3005A	
400-154586-7	DUP-01	Total Recoverable	Water	3005A	
400-154586-8	EB-01	Total Recoverable	Water	3005A	
400-154586-9	FB-01	Total Recoverable	Water	3005A	
MB 400-400016/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-400016/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-154586-1 MS	BAW-1	Total Recoverable	Water	3005A	
400-154586-1 MSD	BAW-1	Total Recoverable	Water	3005A	

Analysis Batch: 400109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total Recoverable	Water	6020	400016
400-154586-2	BAW-2A	Total Recoverable	Water	6020	400016
400-154586-3	BAW-3	Total Recoverable	Water	6020	400016
400-154586-4	BAW-4	Total Recoverable	Water	6020	400016
400-154586-5	BAW-5	Total Recoverable	Water	6020	400016
400-154586-6	BAW-7	Total Recoverable	Water	6020	400016
400-154586-7	DUP-01	Total Recoverable	Water	6020	400016
400-154586-8	EB-01	Total Recoverable	Water	6020	400016
400-154586-9	FB-01	Total Recoverable	Water	6020	400016
MB 400-400016/1-A ^5	Method Blank	Total Recoverable	Water	6020	400016
LCS 400-400016/2-A	Lab Control Sample	Total Recoverable	Water	6020	400016
400-154586-1 MS	BAW-1	Total Recoverable	Water	6020	400016
400-154586-1 MSD	BAW-1	Total Recoverable	Water	6020	400016

General Chemistry

Analysis Batch: 400057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	SM 4500 F C	
400-154586-2	BAW-2A	Total/NA	Water	SM 4500 F C	
400-154586-3	BAW-3	Total/NA	Water	SM 4500 F C	
400-154586-4	BAW-4	Total/NA	Water	SM 4500 F C	
400-154586-5	BAW-5	Total/NA	Water	SM 4500 F C	
400-154586-6	BAW-7	Total/NA	Water	SM 4500 F C	
400-154586-7	DUP-01	Total/NA	Water	SM 4500 F C	
400-154586-8	EB-01	Total/NA	Water	SM 4500 F C	
MB 400-400057/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-400057/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154559-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154559-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154582-C-1 DU	Duplicate	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 400227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-9	FB-01	Total/NA	Water	SM 4500 F C	
MB 400-400227/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-400227/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154588-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154588-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154588-A-8 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 400336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	SM 2540C	
400-154586-2	BAW-2A	Total/NA	Water	SM 2540C	
MB 400-400336/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400336/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154586-2 DU	BAW-2A	Total/NA	Water	SM 2540C	

Analysis Batch: 400417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-3	BAW-3	Total/NA	Water	SM 2540C	
400-154586-4	BAW-4	Total/NA	Water	SM 2540C	
400-154586-5	BAW-5	Total/NA	Water	SM 2540C	
400-154586-6	BAW-7	Total/NA	Water	SM 2540C	
400-154586-7	DUP-01	Total/NA	Water	SM 2540C	
400-154586-8	EB-01	Total/NA	Water	SM 2540C	
400-154586-9	FB-01	Total/NA	Water	SM 2540C	
MB 400-400417/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400417/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154586-3 DU	BAW-3	Total/NA	Water	SM 2540C	

Analysis Batch: 401096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	SM 4500 SO4 E	
400-154586-2	BAW-2A	Total/NA	Water	SM 4500 SO4 E	
400-154586-3	BAW-3	Total/NA	Water	SM 4500 SO4 E	
400-154586-4	BAW-4	Total/NA	Water	SM 4500 SO4 E	
400-154586-5	BAW-5	Total/NA	Water	SM 4500 SO4 E	
400-154586-6	BAW-7	Total/NA	Water	SM 4500 SO4 E	
400-154586-7	DUP-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-401096/17	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-401096/18	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-401096/14	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-154578-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154578-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	
400-154588-A-7 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154588-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 401145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	SM 4500 Cl- E	
400-154586-2	BAW-2A	Total/NA	Water	SM 4500 Cl- E	
400-154586-3	BAW-3	Total/NA	Water	SM 4500 Cl- E	
400-154586-4	BAW-4	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 401145 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-5	BAW-5	Total/NA	Water	SM 4500 Cl- E	
400-154586-6	BAW-7	Total/NA	Water	SM 4500 Cl- E	
400-154586-7	DUP-01	Total/NA	Water	SM 4500 Cl- E	
400-154586-8	EB-01	Total/NA	Water	SM 4500 Cl- E	
400-154586-9	FB-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-401145/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-401145/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-401145/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154586-3 MS	BAW-3	Total/NA	Water	SM 4500 Cl- E	
400-154586-3 MSD	BAW-3	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 402559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-8	EB-01	Total/NA	Water	SM 4500 SO4 E	
400-154586-9	FB-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-402559/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-402559/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-402559/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-155164-I-5 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-155164-I-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Rad

Prep Batch: 369289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	PrecSep-21	
400-154586-2	BAW-2A	Total/NA	Water	PrecSep-21	
400-154586-3	BAW-3	Total/NA	Water	PrecSep-21	
400-154586-4	BAW-4	Total/NA	Water	PrecSep-21	
400-154586-5	BAW-5	Total/NA	Water	PrecSep-21	
400-154586-6	BAW-7	Total/NA	Water	PrecSep-21	
400-154586-7	DUP-01	Total/NA	Water	PrecSep-21	
400-154586-8	EB-01	Total/NA	Water	PrecSep-21	
400-154586-9	FB-01	Total/NA	Water	PrecSep-21	
MB 160-369289/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-369289/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-369289/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 369296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	PrecSep_0	
400-154586-2	BAW-2A	Total/NA	Water	PrecSep_0	
400-154586-3	BAW-3	Total/NA	Water	PrecSep_0	
400-154586-4	BAW-4	Total/NA	Water	PrecSep_0	
400-154586-5	BAW-5	Total/NA	Water	PrecSep_0	
400-154586-6	BAW-7	Total/NA	Water	PrecSep_0	
400-154586-7	DUP-01	Total/NA	Water	PrecSep_0	
400-154586-8	EB-01	Total/NA	Water	PrecSep_0	
400-154586-9	FB-01	Total/NA	Water	PrecSep_0	
MB 160-369296/23-A	Method Blank	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 369296 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-369296/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-369296/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 404328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154586-1	BAW-1	Total/NA	Water	Field Sampling	
400-154586-2	BAW-2A	Total/NA	Water	Field Sampling	
400-154586-3	BAW-3	Total/NA	Water	Field Sampling	
400-154586-4	BAW-4	Total/NA	Water	Field Sampling	
400-154586-5	BAW-5	Total/NA	Water	Field Sampling	
400-154586-6	BAW-7	Total/NA	Water	Field Sampling	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-400016/1-A ^5
Matrix: Water
Analysis Batch: 400109

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 400016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/05/18 10:40	06/05/18 21:36	5
Barium	<0.00049		0.0025	0.00049	mg/L		06/05/18 10:40	06/05/18 21:36	5
Boron	<0.021		0.050	0.021	mg/L		06/05/18 10:40	06/05/18 21:36	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/05/18 10:40	06/05/18 21:36	5
Calcium	<0.13		0.25	0.13	mg/L		06/05/18 10:40	06/05/18 21:36	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/05/18 10:40	06/05/18 21:36	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/05/18 10:40	06/05/18 21:36	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/05/18 10:40	06/05/18 21:36	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/05/18 10:40	06/05/18 21:36	5

Lab Sample ID: LCS 400-400016/2-A
Matrix: Water
Analysis Batch: 400109

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 400016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0500		mg/L		100	80 - 120
Barium	0.0500	0.0523		mg/L		105	80 - 120
Boron	0.100	0.102		mg/L		102	80 - 120
Cadmium	0.0500	0.0504		mg/L		101	80 - 120
Calcium	5.00	5.08		mg/L		102	80 - 120
Chromium	0.0500	0.0504		mg/L		101	80 - 120
Cobalt	0.0500	0.0544		mg/L		109	80 - 120
Lithium	0.0500	0.0529		mg/L		106	80 - 120
Selenium	0.0500	0.0491		mg/L		98	80 - 120

Lab Sample ID: 400-154586-1 MS
Matrix: Water
Analysis Batch: 400109

Client Sample ID: BAW-1
Prep Type: Total Recoverable
Prep Batch: 400016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00046		0.0500	0.0510		mg/L		102	75 - 125
Barium	0.033		0.0500	0.0873		mg/L		108	75 - 125
Boron	<0.021		0.100	0.115		mg/L		115	75 - 125
Cadmium	<0.00034		0.0500	0.0517		mg/L		103	75 - 125
Calcium	0.93		5.00	6.12		mg/L		104	75 - 125
Chromium	<0.0011		0.0500	0.0519		mg/L		104	75 - 125
Cobalt	0.0010	J	0.0500	0.0559		mg/L		110	75 - 125
Lithium	0.0017	J	0.0500	0.0474		mg/L		91	75 - 125
Selenium	0.00064	J	0.0500	0.0522		mg/L		103	75 - 125

Lab Sample ID: 400-154586-1 MSD
Matrix: Water
Analysis Batch: 400109

Client Sample ID: BAW-1
Prep Type: Total Recoverable
Prep Batch: 400016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.00046		0.0500	0.0513		mg/L		103	75 - 125	1	20
Barium	0.033		0.0500	0.0878		mg/L		109	75 - 125	1	20
Boron	<0.021		0.100	0.118		mg/L		118	75 - 125	3	20
Cadmium	<0.00034		0.0500	0.0509		mg/L		102	75 - 125	1	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-154586-1 MSD — **Client Sample ID: BAW-1**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 400109 — **Prep Batch: 400016**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	0.93		5.00	6.26		mg/L		106	75 - 125	2	20
Chromium	<0.0011		0.0500	0.0520		mg/L		104	75 - 125	0	20
Cobalt	0.0010	J	0.0500	0.0566		mg/L		111	75 - 125	1	20
Lithium	0.0017	J	0.0500	0.0477		mg/L		92	75 - 125	1	20
Selenium	0.00064	J	0.0500	0.0515		mg/L		102	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-400336/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400336

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/07/18 15:33	1

Lab Sample ID: LCS 400-400336/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400336

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	250		mg/L		85	78 - 122

Lab Sample ID: 400-154586-2 DU — **Client Sample ID: BAW-2A**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400336

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	26		26.0		mg/L		0	5

Lab Sample ID: MB 400-400417/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/08/18 12:55	1

Lab Sample ID: LCS 400-400417/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	252		mg/L		86	78 - 122

Lab Sample ID: 400-154586-3 DU — **Client Sample ID: BAW-3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400417

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	6.0		6.00		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-401145/6
Matrix: Water
Analysis Batch: 401145

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			06/14/18 15:30	1

Lab Sample ID: LCS 400-401145/7
Matrix: Water
Analysis Batch: 401145

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.3		mg/L		104	90 - 110

Lab Sample ID: MRL 400-401145/3
Matrix: Water
Analysis Batch: 401145

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	1.44	J	mg/L		72	50 - 150

Lab Sample ID: 400-154586-3 MS
Matrix: Water
Analysis Batch: 401145

Client Sample ID: BAW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	7.7		10.0	18.5		mg/L		108	73 - 120

Lab Sample ID: 400-154586-3 MSD
Matrix: Water
Analysis Batch: 401145

Client Sample ID: BAW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	7.7		10.0	18.4		mg/L		107	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-400057/3
Matrix: Water
Analysis Batch: 400057

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			06/05/18 13:28	1

Lab Sample ID: LCS 400-400057/4
Matrix: Water
Analysis Batch: 400057

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.79		mg/L		95	90 - 110

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-154559-A-1 MS
Matrix: Water
Analysis Batch: 400057

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	0.040	J	1.00	1.04		mg/L		100	75 - 125

Lab Sample ID: 400-154559-A-1 MSD
Matrix: Water
Analysis Batch: 400057

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	0.040	J	1.00	1.02		mg/L		98	75 - 125	2	4

Lab Sample ID: 400-154582-C-1 DU
Matrix: Water
Analysis Batch: 400057

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.86		0.860		mg/L		0	4

Lab Sample ID: MB 400-400227/3
Matrix: Water
Analysis Batch: 400227

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			06/06/18 13:42	1

Lab Sample ID: LCS 400-400227/4
Matrix: Water
Analysis Batch: 400227

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.79		mg/L		95	90 - 110

Lab Sample ID: 400-154588-A-1 MS
Matrix: Water
Analysis Batch: 400227

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.032		1.00	1.00		mg/L		100	75 - 125

Lab Sample ID: 400-154588-A-1 MSD
Matrix: Water
Analysis Batch: 400227

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.032		1.00	1.02		mg/L		102	75 - 125	2	4

Lab Sample ID: 400-154588-A-8 DU
Matrix: Water
Analysis Batch: 400227

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	<0.032		<0.032		mg/L		NC	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-401096/17
Matrix: Water
Analysis Batch: 401096

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			06/14/18 10:53	1

Lab Sample ID: LCS 400-401096/18
Matrix: Water
Analysis Batch: 401096

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	15.3		mg/L		102	90 - 110		

Lab Sample ID: MRL 400-401096/14
Matrix: Water
Analysis Batch: 401096

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	4.99	J	mg/L		100	50 - 150		

Lab Sample ID: 400-154578-A-1 MS
Matrix: Water
Analysis Batch: 401096

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	11		10.0	21.7		mg/L		102	77 - 128		

Lab Sample ID: 400-154578-A-1 MSD
Matrix: Water
Analysis Batch: 401096

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	11		10.0	21.5		mg/L		100	77 - 128	1	5

Lab Sample ID: 400-154588-A-7 MS
Matrix: Water
Analysis Batch: 401096

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	<1.4		10.0	9.54		mg/L		95	77 - 128		

Lab Sample ID: 400-154588-A-7 MSD
Matrix: Water
Analysis Batch: 401096

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	<1.4		10.0	9.47		mg/L		95	77 - 128	1	5

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MB 400-402559/6
Matrix: Water
Analysis Batch: 402559

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<1.4		5.0	1.4	mg/L			06/26/18 10:29	1

Lab Sample ID: LCS 400-402559/7
Matrix: Water
Analysis Batch: 402559

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	15.6		mg/L		104	90 - 110		

Lab Sample ID: MRL 400-402559/3
Matrix: Water
Analysis Batch: 402559

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.41		mg/L		108	50 - 150		

Lab Sample ID: 400-155164-I-5 MS
Matrix: Water
Analysis Batch: 402559

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	2.5	J	10.0	14.0		mg/L		115	77 - 128		

Lab Sample ID: 400-155164-I-5 MSD
Matrix: Water
Analysis Batch: 402559

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	2.5	J	10.0	14.4		mg/L		119	77 - 128	3	5

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-369289/23-A
Matrix: Water
Analysis Batch: 373444

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369289

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.02265	U	0.0840	0.0840	1.00	0.200	pCi/L	06/07/18 12:57	06/30/18 17:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.7*		*40 - 110*	*06/07/18 12:57*	*06/30/18 17:50*	*1*

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

Lab Sample ID: LCS 160-369289/1-A
Matrix: Water
Analysis Batch: 373288

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369289

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	11.11		1.30	1.00	0.172	pCi/L	94	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*69.6*		*40 - 110*

Lab Sample ID: LCSD 160-369289/2-A
Matrix: Water
Analysis Batch: 373288

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 369289

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	12.05		1.37	1.00	0.156	pCi/L	102	68 - 137	0.35	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*77.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-369296/23-A
Matrix: Water
Analysis Batch: 372911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369296

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.9962		0.342	0.354	1.00	0.459	pCi/L	06/07/18 15:06	06/28/18 15:03	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.7*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:03*	*1*
Y Carrier	*95.3*		*40 - 110*	*06/07/18 15:06*	*06/28/18 15:03*	*1*

Lab Sample ID: LCS 160-369296/1-A
Matrix: Water
Analysis Batch: 372930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369296

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.19	12.14	*	1.44	1.00	0.654	pCi/L	148	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*69.6*		*40 - 110*
Y Carrier	*92.7*		*40 - 110*

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

Lab Sample ID: LCSD 160-369296/2-A
Matrix: Water
Analysis Batch: 372930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 369296

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.19	9.185	*	1.12	1.00	0.533	pCi/L	112	56 - 140	1.16	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*77.3*		*40 - 110*
Y Carrier	*94.2*		*40 - 110*

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	Sampler: Philip Evans	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-74692-29398.1
Client Contact: Mr. Cale Sellers	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Southern Company				Job #:
Address: PO BOX 2641 GSC8	Due Date Requested:			
City: Birmingham	TAT Requested (days):			
State, Zip: AL, 35291				
Phone: 205-992-7762(Tel)	PO #: SCS10347656			
Email: CBSELLER@SOUTHERNCO.COM	WO #:			
Project Name: CCR -Plant Daniel	Project #: 40006621			
Site: Bottom Ash Pond	SSOW#:			

Analysis Requested

400-154586 COC

Preservation Codes:

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)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC - Radium 226 + Radium 228	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 4500_F_C - Fluoride, 2540C - Total Dissolved Solids	6020 - As,Ba,B,Ca,Cd,Cr,Co,Li,Se	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
BAW-1	6/2/18	1730	G	Water			X	X	X	3	
BAW-2A	6/2/18	1855		Water			X	X	X	3	
BAW-3	6/2/18	1155		Water			X	X	X	3	
BAW-4	6/2/18	1746		Water			X	X	X	3	
BAW-5	6/2/18	1043		Water			X	X	X	3	
BAW-7	6/2/18	1630	G	Water			X	X	X	3	
Dup-01	6/2/18	1630	G	Water			X	X	X	3	
EB-01	6/2/18	1750	G	Water			X	X	X	3	
FB-01	6/2/18	1810	G	Water			X	X	X	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
	6-2-18 1900	RDH		6-2-18 1900	RDH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6-3-18 1300	RDH	B. Hoguelogue	6-3-18 1300	RDH
Relinquished by: B. Hoguelogue	Date/Time: 6-4-18 0925	Company RDH	Received by:	Date/Time: 6/4/18 0925	Company TAL

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.0°C, 0.0°C IR7

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-154586-1
SDG Number: Bottom Ash Pond

Login Number: 154586
List Number: 1
Creator: Perez, Trina M

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	0.0°C, 0.0°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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-154586-1
SDG Number: Bottom Ash Pond

Login Number: 154586
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/06/18 10:06 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18
Michigan	State Program	5	9005	06-30-18 *
Missouri	State Program	7	780	06-30-18 *

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

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-154586-1
SDG: Bottom Ash Pond

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-18 *
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18 *
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18 *
Texas	NELAP	6	T104704193-17-11	07-31-18 *
US Fish & Wildlife	Federal		058448	07-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18 *
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

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

Product Name: Low-Flow System

Date: 2018-06-02 17:29:44

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	67 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	58.1 ft

Well Information:		Pumping Information:	
Well ID	BAW-1	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7790493 L
Well Total Depth	60.6 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0.2 in
Depth to Water	23.10 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	17:11:52	300.02	27.97	4.87	31.95	0.57	23.12	4.53	96.62
Last 5	17:16:52	600.02	27.72	4.89	31.88	0.64	23.12	4.56	97.03
Last 5	17:21:52	900.02	27.68	4.90	32.13	0.74	23.12	4.59	98.17
Last 5	17:26:52	1200.02	27.68	4.92	32.03	0.80	23.12	4.57	99.78
Last 5									
Variance 0			-0.24	0.01	-0.07			0.02	0.41
Variance 1			-0.04	0.01	0.25			0.04	1.14
Variance 2			-0.00	0.03	-0.10			-0.03	1.61

Notes

Sample time 1730. PC 82. Dup-01 fake sample time 1630.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-02 18:57:01

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	62.2 ft

Well Information:		Pumping Information:	
Well ID	BAW-2A	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7924396 L
Well Total Depth	67.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	32.43 ft	Total Volume Pumped	18 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	18:34:56	1500.02	28.50	5.07	33.76	1.84	32.18	5.39	121.87
Last 5	18:39:56	1800.02	28.29	5.07	34.11	1.86	32.18	5.43	123.51
Last 5	18:44:56	2100.02	27.99	5.06	34.69	1.90	32.18	5.30	125.63
Last 5	18:49:56	2400.02	28.08	5.07	34.79	1.85	32.18	5.46	127.02
Last 5	18:54:56	2700.02	27.94	5.06	34.64	1.83	32.18	5.39	128.00
Variance 0			-0.30	-0.01	0.57			-0.14	2.12
Variance 1			0.09	0.01	0.10			0.16	1.39
Variance 2			-0.15	-0.01	-0.15			-0.06	0.98

Notes

Sample time 1855. PC 80. EB-01 sample time 1750. FB-01 sample time 1810.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-02 11:53:13

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	63.4 ft

Well Information:		Pumping Information:	
Well ID	BAW-3	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7924396 L
Well Total Depth	68.4 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	32.08 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	11:30:40	300.02	28.23	5.09	43.82	6.32	32.10	0.45	17.39
Last 5	11:35:40	600.02	28.36	4.93	43.44	4.17	32.10	0.39	18.48
Last 5	11:40:40	900.02	28.22	4.85	43.26	3.73	32.10	0.37	19.15
Last 5	11:45:40	1200.02	28.08	4.82	42.97	2.75	32.10	0.35	20.20
Last 5	11:50:40	1500.02	28.11	4.83	42.85	1.79	32.10	0.34	20.41
Variance 0			-0.14	-0.08	-0.17			-0.02	0.67
Variance 1			-0.13	-0.03	-0.29			-0.02	1.05
Variance 2			0.03	0.01	-0.11			-0.01	0.21

Notes

Sample time 1155. PC 90.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-02 17:46:15

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env.	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Plant Daniel	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	64.9 ft

Well Information:		Pumping Information:	
Well ID	BAW-4	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8013664 L
Well Total Depth	69.9 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.5 in
Depth to Water	29.66 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	17:23:42	300.03	25.28	5.16	44.45	0.95	29.71	1.10	27.94
Last 5	17:33:42	900.02	24.73	5.19	44.60	0.85	29.71	0.16	-17.97
Last 5	17:38:42	1200.02	24.76	5.21	44.63	0.80	29.71	0.15	-21.39
Last 5	17:43:42	1500.09	24.69	5.22	44.55	0.86	29.71	0.15	-20.12
Last 5									
Variance 0			-0.54	0.03	0.15			-0.94	-45.91
Variance 1			0.02	0.02	0.03			-0.01	-3.42
Variance 2			-0.07	0.01	-0.08			-0.00	1.27

Notes

Sample time 1746. PC 88.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-02 10:49:57

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	64.1 ft

Well Information:		Pumping Information:	
Well ID	BAW-5	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8013664 L
Well Total Depth	69.1 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	33.13 ft	Total Volume Pumped	78 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	10:20:27	10211.02	27.54	6.23	123.20	1.94	33.15	0.16	-4.42
Last 5	10:25:28	10512.02	27.34	6.23	124.03	1.89	33.15	0.17	-5.95
Last 5	10:30:32	10816.02	27.25	6.24	123.25	1.84	33.15	0.16	-7.17
Last 5	10:35:32	11116.02	27.13	6.24	123.72	1.80	33.15	0.17	-8.53
Last 5	10:40:32	11416.02	27.19	6.24	123.27	--	--	0.17	-9.88
Variance 0			-0.10	0.01	-0.79			-0.00	-1.22
Variance 1			-0.12	0.00	0.47			0.00	-1.36
Variance 2			0.06	0.00	-0.45			0.00	-1.34

Notes

Sample time 1043. PC 88. Final turbidity 1.86. Final depth 33.15.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-02 16:30:01

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Daniel BAW CCR	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	66 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	58.5 ft

Well Information:		Pumping Information:	
Well ID	BAW-7	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.774586 L
Well Total Depth	63.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.2 in
Depth to Water	26.58 ft	Total Volume Pumped	96 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	16:05:42	13210.02	27.11	4.87	30.37	5.77	26.60	3.59	127.36
Last 5	16:10:45	13513.02	27.15	4.87	30.36	5.91	26.60	3.57	129.01
Last 5	16:15:45	13813.02	26.88	4.87	30.41	5.89	26.60	3.62	130.02
Last 5	16:20:45	14113.02	26.63	4.87	30.54	5.70	26.60	3.66	131.02
Last 5	16:25:45	14413.02	26.87	4.87	30.39	5.86	26.60	3.61	131.98
Variance 0			-0.27	-0.01	0.06			0.04	1.01
Variance 1			-0.25	0.00	0.13			0.04	1.00
Variance 2			0.24	-0.00	-0.15			-0.05	0.96

Notes

Sample time 1630. PC 85.

Grab Samples

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: 400-161946-1
TestAmerica Sample Delivery Group: Bottom Ash Pond
Client Project/Site: CCR -Plant Daniel

For:
Southern Company
PO BOX 2641 GSC8
Birmingham, Alabama 35291

Attn: Mr. Cale B. Sellers

Cheyenne R Whitmire

Authorized for release by:
12/14/2018 2:36:04 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

Table of Contents

Job ID: 400-161946-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-161946-1

Metals
Method(s) 200.8, 6020: The continuing calibration verification (CCV) associated with batch 421080 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: BAW-1 (400-161946-1), BAW-2A (400-161946-2), BAW-3 (400-161946-3), BAW-4 (400-161946-4), BAW-5 (400-161946-5), BAW-7 (400-161946-6), DUP-01 (400-161946-7), DUP-02 (400-161946-8), EB-01 (400-161946-9), FB-01 (400-161946-10), (LCS 400-420580/2-A) and (MB 400-420580/1-A ^5).

General Chemistry
Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: (400-162174-D-1) and (400-162174-D-1 DU). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-1 — Lab Sample ID: 400-161946-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.0013	J	0.0025	0.0010	mg/L	5		6020	Total Recoverable
Calcium	1.0		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0010	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0023	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0025		0.0013	0.00071	mg/L	5		6020	Total Recoverable
Barium - RA	0.032		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	12		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.6		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-2A — Lab Sample ID: 400-161946-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.61		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00075	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0024	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00098	J	0.0013	0.00071	mg/L	5		6020	Total Recoverable
Barium - RA	0.033		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	94		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	7.2		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.92				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-3 — Lab Sample ID: 400-161946-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00085	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	0.84		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0068		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0024	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00088	J	0.0013	0.00071	mg/L	5		6020	Total Recoverable
Thallium	0.000085	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Barium - RA	0.028		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	34		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	8.5		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.6	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.83				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-4 — Lab Sample ID: 400-161946-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.024	J	0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	3.0		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0011	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.025		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Barium - RA	0.0091		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	170		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.6		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.050	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.7	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.29				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-5 — Lab Sample ID: 400-161946-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.13		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	14		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.18		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Arsenic - RA	0.0021		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium - RA	0.039		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	38		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	9.7		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.060	J	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.3	J	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.27				SU	1		Field Sampling	Total/NA

Client Sample ID: BAW-7 — Lab Sample ID: 400-161946-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.59		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00076	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0027	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Barium - RA	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	20		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.9		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.92				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 400-161946-7

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: DUP-01 (Continued) — Lab Sample ID: 400-161946-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.99		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00093	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0012	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Barium - RA	0.032		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	46		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.0		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: DUP-02 — Lab Sample ID: 400-161946-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.58		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00077	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0021	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Barium - RA	0.032		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chloride	7.1		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 400-161946-9

No Detections.

Client Sample ID: FB-01 — Lab Sample ID: 400-161946-10

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
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
Field Sampling	Field Sampling	EPA	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-161946-1	BAW-1	Water	11/08/18 12:20	11/10/18 08:35
400-161946-2	BAW-2A	Water	11/09/18 12:16	11/10/18 08:35
400-161946-3	BAW-3	Water	11/08/18 13:45	11/10/18 08:35
400-161946-4	BAW-4	Water	11/08/18 14:45	11/10/18 08:35
400-161946-5	BAW-5	Water	11/09/18 07:12	11/10/18 08:35
400-161946-6	BAW-7	Water	11/09/18 11:15	11/10/18 08:35
400-161946-7	DUP-01	Water	11/08/18 11:20	11/10/18 08:35
400-161946-8	DUP-02	Water	11/09/18 11:16	11/10/18 08:35
400-161946-9	EB-01	Water	11/09/18 11:42	11/10/18 08:35
400-161946-10	FB-01	Water	11/09/18 07:15	11/10/18 08:35

Client Sample Results

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-1

Date Collected: 11/08/18 12:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-1

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0013**	**J**	0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:08	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:08	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:08	5
Calcium	**1.0**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:08	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:08	5
Cobalt	**0.0010**	**J**	0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:08	5
Lithium	**0.0023**	**J**	0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:08	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:08	5
Selenium	**0.0025**		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:08	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:08	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 10:52	5
Barium	**0.032**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 10:52	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 10:52	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 10:52	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**12**		5.0	3.4	mg/L			11/15/18 08:29	1
Chloride	**5.6**		2.0	1.4	mg/L			11/21/18 09:12	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:00	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 13:27	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5**				SU			11/08/18 12:20	1

Client Sample ID: BAW-2A

Date Collected: 11/09/18 12:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-2

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:42	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:42	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:42	5
Calcium	**0.61**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:42	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:42	5
Cobalt	**0.00075**	**J**	0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:42	5
Lithium	**0.0024**	**J**	0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:42	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:42	5
Selenium	**0.00098**	**J**	0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:42	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:42	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 10:56	5
Barium	**0.033**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 10:56	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 10:56	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 10:56	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**94**		5.0	3.4	mg/L			11/15/18 13:49	1
Chloride	**7.2**		2.0	1.4	mg/L			11/21/18 11:06	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:08	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 14:11	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.92**				SU			11/09/18 12:16	1

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: BAW-3

Date Collected: 11/08/18 13:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-3

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:45	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:45	5
Cadmium	**0.00085**	**J**	0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:45	5
Calcium	**0.84**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:45	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:45	5
Cobalt	**0.0068**		0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:45	5
Lithium	**0.0024**	**J**	0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:45	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:45	5
Selenium	**0.00088**	**J**	0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:45	5
Thallium	**0.000085**	**J**	0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:45	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 10:59	5
Barium	**0.028**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 10:59	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 10:59	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 10:59	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**34**		5.0	3.4	mg/L			11/15/18 08:29	1
Chloride	**8.5**		2.0	1.4	mg/L			11/21/18 09:12	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:11	1
Sulfate	**1.6**	**J**	5.0	1.4	mg/L			11/21/18 13:27	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.83**				SU			11/08/18 13:45	1

Client Sample ID: BAW-4

Date Collected: 11/08/18 14:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-4

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:49	5
Boron	**0.024**	**J**	0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:49	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:49	5
Calcium	**3.0**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:49	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:49	5
Cobalt	**0.0011**	**J**	0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:49	5
Lithium	**0.025**		0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:49	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:49	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:49	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:49	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:03	5
Barium	**0.0091**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:03	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:03	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:03	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**170**		5.0	3.4	mg/L			11/15/18 17:42	1
Chloride	**6.6**		2.0	1.4	mg/L			11/21/18 11:03	1
Fluoride	**0.050**	**J**	0.10	0.032	mg/L			11/12/18 14:14	1
Sulfate	**2.7**	**J**	5.0	1.4	mg/L			11/21/18 13:22	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.29**				SU			11/08/18 14:45	1

Client Sample ID: BAW-5

Date Collected: 11/09/18 07:12
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-5

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:52	5
Boron	**0.13**		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:52	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:52	5
Calcium	**14**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:52	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:52	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:52	5
Lithium	**0.18**		0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:52	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:52	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:52	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:52	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0021**		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:07	5
Barium	**0.039**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:07	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:07	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:07	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**38**		5.0	3.4	mg/L			11/15/18 13:49	1
Chloride	**9.7**		2.0	1.4	mg/L			11/21/18 11:06	1
Fluoride	**0.060**	**J**	0.10	0.032	mg/L			11/12/18 14:16	1
Sulfate	**2.3**	**J**	5.0	1.4	mg/L			11/21/18 14:11	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.27**				SU			11/09/18 07:12	1

Client Sample ID: BAW-7

Date Collected: 11/09/18 11:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-6

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:56	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:56	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:56	5
Calcium	**0.59**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:56	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:56	5
Cobalt	**0.00076**	**J**	0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:56	5
Lithium	**0.0027**	**J**	0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:56	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:56	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:56	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:56	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:10	5
Barium	**0.011**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:10	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:10	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:10	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**20**		5.0	3.4	mg/L			11/15/18 13:49	1
Chloride	**4.9**		2.0	1.4	mg/L			11/21/18 11:06	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:19	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 14:07	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.92**				SU			11/09/18 11:15	1

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: DUP-01

Date Collected: 11/08/18 11:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-7

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 19:00	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 19:00	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 19:00	5
Calcium	**0.99**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 19:00	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 19:00	5
Cobalt	**0.00093**	**J**	0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 19:00	5
Lithium	**0.0012**	**J**	0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 19:00	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 19:00	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 19:00	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 19:00	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:14	5
Barium	**0.032**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:14	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:14	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:14	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**46**		5.0	3.4	mg/L			11/15/18 08:29	1
Chloride	**5.0**		2.0	1.4	mg/L			11/21/18 11:03	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:22	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 13:16	1

Client Sample ID: DUP-02

Date Collected: 11/09/18 11:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-8

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 19:03	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 19:03	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 19:03	5
Calcium	**0.58**		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 19:03	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 19:03	5
Cobalt	**0.00077**	**J**	0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 19:03	5
Lithium	**0.0021**	**J**	0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 19:03	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 19:03	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 19:03	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 19:03	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:17	5
Barium	**0.032**		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:17	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:17	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:17	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			11/15/18 13:49	1
Chloride	**7.1**		2.0	1.4	mg/L			11/21/18 11:13	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:26	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 14:11	1

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: EB-01
Date Collected: 11/09/18 11:42
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-9
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 19:21	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 19:21	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 19:21	5
Calcium	<0.13		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 19:21	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 19:21	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 19:21	5
Lithium	<0.0011		0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 19:21	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 19:21	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 19:21	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 19:21	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:35	5
Barium	<0.00049		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:35	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:35	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:35	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			11/15/18 13:49	1
Chloride	<1.4		2.0	1.4	mg/L			11/21/18 11:13	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:34	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 14:11	1

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: FB-01
Date Collected: 11/09/18 07:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-10
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 19:24	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 19:24	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 19:24	5
Calcium	<0.13		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 19:24	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 19:24	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 19:24	5
Lithium	<0.0011		0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 19:24	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 19:24	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 19:24	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 19:24	5

Method: 6020 - Metals (ICP/MS) - Total Recoverable - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 11:38	5
Barium	<0.00049		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 11:38	5
Beryllium	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 11:38	5
Lead	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 11:38	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			11/15/18 13:49	1
Chloride	<1.4		2.0	1.4	mg/L			11/21/18 11:13	1
Fluoride	<0.032		0.10	0.032	mg/L			11/12/18 14:40	1
Sulfate	<1.4		5.0	1.4	mg/L			11/21/18 14:11	1

Qualifiers

Metals

Qualifier	Qualifier Description
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.

General Chemistry

Qualifier	Qualifier Description
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.
¤	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)

Client Sample ID: BAW-1

Date Collected: 11/08/18 12:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 18:08	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 10:52	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419644	11/15/18 08:29	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420414	11/21/18 09:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:00	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420451	11/21/18 13:27	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	422957	11/08/18 12:20	CDH	TAL PEN

Client Sample ID: BAW-2A

Date Collected: 11/09/18 12:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 18:42	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 10:56	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419701	11/15/18 13:49	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:06	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:08	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420464	11/21/18 14:11	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	422957	11/09/18 12:16	CDH	TAL PEN

Client Sample ID: BAW-3

Date Collected: 11/08/18 13:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 18:45	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 10:59	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419644	11/15/18 08:29	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420414	11/21/18 09:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:11	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420451	11/21/18 13:27	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	422957	11/08/18 13:45	CDH	TAL PEN

Client Sample ID: BAW-4

Date Collected: 11/08/18 14:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 18:49	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:03	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419746	11/15/18 17:42	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:03	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:14	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420451	11/21/18 13:22	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	422957	11/08/18 14:45	CDH	TAL PEN

Client Sample ID: BAW-5

Date Collected: 11/09/18 07:12
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 18:52	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:07	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419701	11/15/18 13:49	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:06	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:16	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420464	11/21/18 14:11	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	422957	11/09/18 07:12	CDH	TAL PEN

Client Sample ID: BAW-7

Date Collected: 11/09/18 11:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 18:56	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:10	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419701	11/15/18 13:49	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:06	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:19	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420464	11/21/18 14:07	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	422957	11/09/18 11:15	CDH	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: DUP-01

Date Collected: 11/08/18 11:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 19:00	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:14	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419644	11/15/18 08:29	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:03	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:22	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420451	11/21/18 13:16	RRC	TAL PEN

Client Sample ID: DUP-02

Date Collected: 11/09/18 11:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 19:03	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:17	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419701	11/15/18 13:49	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:26	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420464	11/21/18 14:11	RRC	TAL PEN

Client Sample ID: EB-01

Date Collected: 11/09/18 11:42
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 19:21	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:35	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419701	11/15/18 13:49	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:34	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420464	11/21/18 14:11	RRC	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Client Sample ID: FB-01

Date Collected: 11/09/18 07:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	420920	11/26/18 19:24	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		420580	11/23/18 11:55	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	421080	11/27/18 11:38	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	419701	11/15/18 13:49	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	420434	11/21/18 11:13	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	419253	11/12/18 14:40	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420464	11/21/18 14:11	RRC	TAL PEN

Laboratory References:

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

Metals

Prep Batch: 420580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total Recoverable	Water	3005A	
400-161946-1 - RA	BAW-1	Total Recoverable	Water	3005A	
400-161946-2	BAW-2A	Total Recoverable	Water	3005A	
400-161946-2 - RA	BAW-2A	Total Recoverable	Water	3005A	
400-161946-3	BAW-3	Total Recoverable	Water	3005A	
400-161946-3 - RA	BAW-3	Total Recoverable	Water	3005A	
400-161946-4 - RA	BAW-4	Total Recoverable	Water	3005A	
400-161946-4	BAW-4	Total Recoverable	Water	3005A	
400-161946-5	BAW-5	Total Recoverable	Water	3005A	
400-161946-5 - RA	BAW-5	Total Recoverable	Water	3005A	
400-161946-6 - RA	BAW-7	Total Recoverable	Water	3005A	
400-161946-6	BAW-7	Total Recoverable	Water	3005A	
400-161946-7	DUP-01	Total Recoverable	Water	3005A	
400-161946-7 - RA	DUP-01	Total Recoverable	Water	3005A	
400-161946-8	DUP-02	Total Recoverable	Water	3005A	
400-161946-8 - RA	DUP-02	Total Recoverable	Water	3005A	
400-161946-9	EB-01	Total Recoverable	Water	3005A	
400-161946-9 - RA	EB-01	Total Recoverable	Water	3005A	
400-161946-10	FB-01	Total Recoverable	Water	3005A	
400-161946-10 - RA	FB-01	Total Recoverable	Water	3005A	
MB 400-420580/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
MB 400-420580/1-A ^5 - RA	Method Blank	Total Recoverable	Water	3005A	
LCS 400-420580/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 400-420580/2-A - RA	Lab Control Sample	Total Recoverable	Water	3005A	
400-161946-1 MS	BAW-1	Total Recoverable	Water	3005A	
400-161946-1 MSD	BAW-1	Total Recoverable	Water	3005A	

Analysis Batch: 420920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total Recoverable	Water	6020	420580
400-161946-2	BAW-2A	Total Recoverable	Water	6020	420580
400-161946-3	BAW-3	Total Recoverable	Water	6020	420580
400-161946-4	BAW-4	Total Recoverable	Water	6020	420580
400-161946-5	BAW-5	Total Recoverable	Water	6020	420580
400-161946-6	BAW-7	Total Recoverable	Water	6020	420580
400-161946-7	DUP-01	Total Recoverable	Water	6020	420580
400-161946-8	DUP-02	Total Recoverable	Water	6020	420580
400-161946-9	EB-01	Total Recoverable	Water	6020	420580
400-161946-10	FB-01	Total Recoverable	Water	6020	420580
MB 400-420580/1-A ^5	Method Blank	Total Recoverable	Water	6020	420580
LCS 400-420580/2-A	Lab Control Sample	Total Recoverable	Water	6020	420580
400-161946-1 MS	BAW-1	Total Recoverable	Water	6020	420580
400-161946-1 MSD	BAW-1	Total Recoverable	Water	6020	420580

Analysis Batch: 421080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1 - RA	BAW-1	Total Recoverable	Water	6020	420580
400-161946-2 - RA	BAW-2A	Total Recoverable	Water	6020	420580
400-161946-3 - RA	BAW-3	Total Recoverable	Water	6020	420580
400-161946-4 - RA	BAW-4	Total Recoverable	Water	6020	420580
400-161946-5 - RA	BAW-5	Total Recoverable	Water	6020	420580

Metals (Continued)

Analysis Batch: 421080 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-6 - RA	BAW-7	Total Recoverable	Water	6020	420580
400-161946-7 - RA	DUP-01	Total Recoverable	Water	6020	420580
400-161946-8 - RA	DUP-02	Total Recoverable	Water	6020	420580
400-161946-9 - RA	EB-01	Total Recoverable	Water	6020	420580
400-161946-10 - RA	FB-01	Total Recoverable	Water	6020	420580
MB 400-420580/1-A ^5 - RA	Method Blank	Total Recoverable	Water	6020	420580
LCS 400-420580/2-A - RA	Lab Control Sample	Total Recoverable	Water	6020	420580

General Chemistry

Analysis Batch: 419253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	SM 4500 F C	
400-161946-2	BAW-2A	Total/NA	Water	SM 4500 F C	
400-161946-3	BAW-3	Total/NA	Water	SM 4500 F C	
400-161946-4	BAW-4	Total/NA	Water	SM 4500 F C	
400-161946-5	BAW-5	Total/NA	Water	SM 4500 F C	
400-161946-6	BAW-7	Total/NA	Water	SM 4500 F C	
400-161946-7	DUP-01	Total/NA	Water	SM 4500 F C	
400-161946-8	DUP-02	Total/NA	Water	SM 4500 F C	
400-161946-9	EB-01	Total/NA	Water	SM 4500 F C	
400-161946-10	FB-01	Total/NA	Water	SM 4500 F C	
MB 400-419253/4	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-419253/2	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-161946-1 MS	BAW-1	Total/NA	Water	SM 4500 F C	
400-161946-1 MSD	BAW-1	Total/NA	Water	SM 4500 F C	
400-161946-9 DU	EB-01	Total/NA	Water	SM 4500 F C	

Analysis Batch: 419644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	SM 2540C	
400-161946-3	BAW-3	Total/NA	Water	SM 2540C	
400-161946-7	DUP-01	Total/NA	Water	SM 2540C	
MB 400-419644/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-419644/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-161928-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 419701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-2	BAW-2A	Total/NA	Water	SM 2540C	
400-161946-5	BAW-5	Total/NA	Water	SM 2540C	
400-161946-6	BAW-7	Total/NA	Water	SM 2540C	
400-161946-8	DUP-02	Total/NA	Water	SM 2540C	
400-161946-9	EB-01	Total/NA	Water	SM 2540C	
400-161946-10	FB-01	Total/NA	Water	SM 2540C	
MB 400-419701/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-419701/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-161946-6 DU	BAW-7	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 419746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-4	BAW-4	Total/NA	Water	SM 2540C	
MB 400-419746/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-419746/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-162076-R-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 420414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	SM 4500 Cl- E	
400-161946-3	BAW-3	Total/NA	Water	SM 4500 Cl- E	
MB 400-420414/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-420414/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-420414/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-161920-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-161920-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 420434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-2	BAW-2A	Total/NA	Water	SM 4500 Cl- E	
400-161946-4	BAW-4	Total/NA	Water	SM 4500 Cl- E	
400-161946-5	BAW-5	Total/NA	Water	SM 4500 Cl- E	
400-161946-6	BAW-7	Total/NA	Water	SM 4500 Cl- E	
400-161946-7	DUP-01	Total/NA	Water	SM 4500 Cl- E	
400-161946-8	DUP-02	Total/NA	Water	SM 4500 Cl- E	
400-161946-9	EB-01	Total/NA	Water	SM 4500 Cl- E	
400-161946-10	FB-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-420434/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-420434/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-420434/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-162240-B-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-162240-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 420451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	SM 4500 SO4 E	
400-161946-3	BAW-3	Total/NA	Water	SM 4500 SO4 E	
400-161946-4	BAW-4	Total/NA	Water	SM 4500 SO4 E	
400-161946-7	DUP-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-420451/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-420451/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-420451/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-161946-4 MS	BAW-4	Total/NA	Water	SM 4500 SO4 E	
400-161946-4 MSD	BAW-4	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 420464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-2	BAW-2A	Total/NA	Water	SM 4500 SO4 E	
400-161946-5	BAW-5	Total/NA	Water	SM 4500 SO4 E	
400-161946-6	BAW-7	Total/NA	Water	SM 4500 SO4 E	
400-161946-8	DUP-02	Total/NA	Water	SM 4500 SO4 E	
400-161946-9	EB-01	Total/NA	Water	SM 4500 SO4 E	
400-161946-10	FB-01	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 420464 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-420464/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-420464/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-420464/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-161946-6 MS	BAW-7	Total/NA	Water	SM 4500 SO4 E	
400-161946-6 MSD	BAW-7	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 422957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	Field Sampling	
400-161946-2	BAW-2A	Total/NA	Water	Field Sampling	
400-161946-3	BAW-3	Total/NA	Water	Field Sampling	
400-161946-4	BAW-4	Total/NA	Water	Field Sampling	
400-161946-5	BAW-5	Total/NA	Water	Field Sampling	
400-161946-6	BAW-7	Total/NA	Water	Field Sampling	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-420580/1-A ^5
Matrix: Water
Analysis Batch: 420920

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/26/18 18:01	5
Boron	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/26/18 18:01	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/26/18 18:01	5
Calcium	<0.13		0.25	0.13	mg/L		11/23/18 11:55	11/26/18 18:01	5
Chromium	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/26/18 18:01	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		11/23/18 11:55	11/26/18 18:01	5
Lithium	<0.0011		0.0050	0.0011	mg/L		11/23/18 11:55	11/26/18 18:01	5
Molybdenum	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/26/18 18:01	5
Selenium	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/26/18 18:01	5
Thallium	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/26/18 18:01	5

Lab Sample ID: LCS 400-420580/2-A
Matrix: Water
Analysis Batch: 420920

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0574		mg/L		115	80 - 120
Boron	0.100	0.0993		mg/L		99	80 - 120
Cadmium	0.0500	0.0527		mg/L		105	80 - 120
Calcium	5.00	5.42		mg/L		108	80 - 120
Chromium	0.0500	0.0525		mg/L		105	80 - 120
Cobalt	0.0500	0.0556		mg/L		111	80 - 120
Lithium	0.0500	0.0513		mg/L		103	80 - 120
Molybdenum	0.0500	0.0538		mg/L		108	80 - 120
Selenium	0.0500	0.0503		mg/L		101	80 - 120
Thallium	0.0100	0.0108		mg/L		108	80 - 120

Lab Sample ID: 400-161946-1 MS
Matrix: Water
Analysis Batch: 420920

Client Sample ID: BAW-1
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0013	J	0.0500	0.0561		mg/L		110	75 - 125
Arsenic	<0.00046	^	0.0500	0.0479	^	mg/L		96	75 - 125
Barium	0.032	^	0.0500	0.0788	^	mg/L		93	75 - 125
Beryllium	<0.00034	^	0.0500	0.0466	^	mg/L		93	75 - 125
Boron	<0.021		0.100	0.112		mg/L		112	75 - 125
Cadmium	<0.00034		0.0500	0.0502		mg/L		100	75 - 125
Calcium	1.0		5.00	6.24		mg/L		104	75 - 125
Chromium	<0.0011		0.0500	0.0503		mg/L		101	75 - 125
Cobalt	0.0010	J	0.0500	0.0530		mg/L		104	75 - 125
Lead	<0.00035	^	0.0500	0.0492	^	mg/L		98	75 - 125
Lithium	0.0023	J	0.0500	0.0566		mg/L		109	75 - 125
Molybdenum	<0.0020		0.0500	0.0535		mg/L		107	75 - 125
Selenium	0.0025		0.0500	0.0508		mg/L		97	75 - 125
Thallium	<0.000085		0.0100	0.0103		mg/L		103	75 - 125

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 400-161946-1 MSD
Matrix: Water
Analysis Batch: 420920

Client Sample ID: BAW-1
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0013	J	0.0500	0.0548		mg/L		107	75 - 125	2	20
Arsenic	<0.00046	^	0.0500	0.0487	^	mg/L		97	75 - 125	2	20
Barium	0.032	^	0.0500	0.0806	^	mg/L		96	75 - 125	2	20
Beryllium	<0.00034	^	0.0500	0.0473	^	mg/L		95	75 - 125	2	20
Boron	<0.021		0.100	0.108		mg/L		108	75 - 125	3	20
Cadmium	<0.00034		0.0500	0.0510		mg/L		102	75 - 125	2	20
Calcium	1.0		5.00	6.26		mg/L		104	75 - 125	0	20
Chromium	<0.0011		0.0500	0.0517		mg/L		103	75 - 125	3	20
Cobalt	0.0010	J	0.0500	0.0534		mg/L		105	75 - 125	1	20
Lead	<0.00035	^	0.0500	0.0504	^	mg/L		101	75 - 125	2	20
Lithium	0.0023	J	0.0500	0.0572		mg/L		110	75 - 125	1	20
Molybdenum	<0.0020		0.0500	0.0524		mg/L		105	75 - 125	2	20
Selenium	0.0025		0.0500	0.0503		mg/L		96	75 - 125	1	20
Thallium	<0.000085		0.0100	0.0105		mg/L		105	75 - 125	2	20

Method: 6020 - Metals (ICP/MS) - RA

Lab Sample ID: MB 400-420580/1-A ^5
Matrix: Water
Analysis Batch: 421080

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony - RA	<0.0010		0.0025	0.0010	mg/L		11/23/18 11:55	11/27/18 10:42	5
Arsenic - RA	<0.00046		0.0013	0.00046	mg/L		11/23/18 11:55	11/27/18 10:42	5
Barium - RA	<0.00049		0.0025	0.00049	mg/L		11/23/18 11:55	11/27/18 10:42	5
Beryllium - RA	<0.00034	^	0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 10:42	5
Boron - RA	<0.021		0.050	0.021	mg/L		11/23/18 11:55	11/27/18 10:42	5
Cadmium - RA	<0.00034		0.0025	0.00034	mg/L		11/23/18 11:55	11/27/18 10:42	5
Calcium - RA	<0.13		0.25	0.13	mg/L		11/23/18 11:55	11/27/18 10:42	5
Chromium - RA	<0.0011		0.0025	0.0011	mg/L		11/23/18 11:55	11/27/18 10:42	5
Cobalt - RA	<0.00040		0.0025	0.00040	mg/L		11/23/18 11:55	11/27/18 10:42	5
Lead - RA	<0.00035		0.0013	0.00035	mg/L		11/23/18 11:55	11/27/18 10:42	5
Lithium - RA	<0.0011		0.0050	0.0011	mg/L		11/23/18 11:55	11/27/18 10:42	5
Molybdenum - RA	<0.0020		0.015	0.0020	mg/L		11/23/18 11:55	11/27/18 10:42	5
Selenium - RA	<0.00071		0.0013	0.00071	mg/L		11/23/18 11:55	11/27/18 10:42	5
Thallium - RA	<0.000085		0.00050	0.000085	mg/L		11/23/18 11:55	11/27/18 10:42	5

Lab Sample ID: LCS 400-420580/2-A
Matrix: Water
Analysis Batch: 421080

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony - RA	0.0500	0.0541		mg/L		108	80 - 120
Arsenic - RA	0.0500	0.0508		mg/L		102	80 - 120
Barium - RA	0.0500	0.0516		mg/L		103	80 - 120
Beryllium - RA	0.0500	0.0581	^	mg/L		116	80 - 120
Boron - RA	0.100	0.0948		mg/L		95	80 - 120
Cadmium - RA	0.0500	0.0525		mg/L		105	80 - 120

Method: 6020 - Metals (ICP/MS) - RA (Continued)

Lab Sample ID: LCS 400-420580/2-A
Matrix: Water
Analysis Batch: 421080

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 420580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium - RA	5.00	5.15		mg/L		103	80 - 120
Chromium - RA	0.0500	0.0521		mg/L		104	80 - 120
Cobalt - RA	0.0500	0.0546		mg/L		109	80 - 120
Lead - RA	0.0500	0.0537		mg/L		107	80 - 120
Lithium - RA	0.0500	0.0502		mg/L		100	80 - 120
Molybdenum - RA	0.0500	0.0518		mg/L		104	80 - 120
Selenium - RA	0.0500	0.0497		mg/L		99	80 - 120
Thallium - RA	0.0100	0.0100		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 400-419644/1
Matrix: Water
Analysis Batch: 419644

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			11/15/18 08:29	1

Lab Sample ID: LCS 400-419644/2
Matrix: Water
Analysis Batch: 419644

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	262		mg/L		89	78 - 122

Lab Sample ID: 400-161928-A-1 DU
Matrix: Water
Analysis Batch: 419644

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	150		154		mg/L		0	5

Lab Sample ID: MB 400-419701/1
Matrix: Water
Analysis Batch: 419701

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			11/15/18 13:49	1

Lab Sample ID: LCS 400-419701/2
Matrix: Water
Analysis Batch: 419701

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	236		mg/L		81	78 - 122

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 400-161946-6 DU
Matrix: Water
Analysis Batch: 419701

Client Sample ID: BAW-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	20			20.0		mg/L				0	5

Lab Sample ID: MB 400-419746/1
Matrix: Water
Analysis Batch: 419746

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			11/15/18 17:42	1

Lab Sample ID: LCS 400-419746/2
Matrix: Water
Analysis Batch: 419746

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			293	238		mg/L		81	78 - 122		

Lab Sample ID: 400-162076-R-2 DU
Matrix: Water
Analysis Batch: 419746

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	440			436		mg/L				0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-420414/6
Matrix: Water
Analysis Batch: 420414

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			11/21/18 09:02	1

Lab Sample ID: LCS 400-420414/7
Matrix: Water
Analysis Batch: 420414

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 400-420414/3
Matrix: Water
Analysis Batch: 420414

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	1.59	J	mg/L		79	50 - 150		

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 400-161920-A-4 MS
Matrix: Water
Analysis Batch: 420414

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	7.6		10.0	19.1		mg/L		115	73 - 120

Lab Sample ID: 400-161920-A-4 MSD
Matrix: Water
Analysis Batch: 420414

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	7.6		10.0	18.5		mg/L		109	73 - 120	3	8

Lab Sample ID: MB 400-420434/6
Matrix: Water
Analysis Batch: 420434

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.4		2.0	1.4	mg/L			11/21/18 11:03	1

Lab Sample ID: LCS 400-420434/7
Matrix: Water
Analysis Batch: 420434

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	32.4		mg/L		108	90 - 110

Lab Sample ID: MRL 400-420434/3
Matrix: Water
Analysis Batch: 420434

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	1.25	J	mg/L		63	50 - 150

Lab Sample ID: 400-162240-B-1 MS
Matrix: Water
Analysis Batch: 420434

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	4.7		10.0	16.0		mg/L		113	73 - 120

Lab Sample ID: 400-162240-B-1 MSD
Matrix: Water
Analysis Batch: 420434

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	4.7		10.0	15.8		mg/L		111	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-419253/4
Matrix: Water
Analysis Batch: 419253

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			11/12/18 13:34	1

Lab Sample ID: LCS 400-419253/2
Matrix: Water
Analysis Batch: 419253

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	4.34		mg/L		109	90 - 110

Lab Sample ID: 400-161946-1 MS
Matrix: Water
Analysis Batch: 419253

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.032		1.00	1.16		mg/L		116	75 - 125

Lab Sample ID: 400-161946-1 MSD
Matrix: Water
Analysis Batch: 419253

Client Sample ID: BAW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.032		1.00	1.16		mg/L		116	75 - 125	0	4

Lab Sample ID: 400-161946-9 DU
Matrix: Water
Analysis Batch: 419253

Client Sample ID: EB-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	<0.032		<0.032		mg/L		NC	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-420451/6
Matrix: Water
Analysis Batch: 420451

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			11/21/18 13:16	1

Lab Sample ID: LCS 400-420451/7
Matrix: Water
Analysis Batch: 420451

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

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-420451/3
Matrix: Water
Analysis Batch: 420451

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	4.42	J	mg/L		88	50 - 150

Lab Sample ID: 400-161946-4 MS
Matrix: Water
Analysis Batch: 420451

Client Sample ID: BAW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2.7	J	10.0	12.0		mg/L		93	77 - 128

Lab Sample ID: 400-161946-4 MSD
Matrix: Water
Analysis Batch: 420451

Client Sample ID: BAW-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	2.7	J	10.0	12.1		mg/L		94	77 - 128	0	5

Lab Sample ID: MB 400-420464/6
Matrix: Water
Analysis Batch: 420464

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			11/21/18 14:07	1

Lab Sample ID: LCS 400-420464/7
Matrix: Water
Analysis Batch: 420464

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

Lab Sample ID: MRL 400-420464/3
Matrix: Water
Analysis Batch: 420464

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	4.47	J	mg/L		89	50 - 150

Lab Sample ID: 400-161946-6 MS
Matrix: Water
Analysis Batch: 420464

Client Sample ID: BAW-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	<1.4		10.0	11.3		mg/L		113	77 - 128

Lab Sample ID: 400-161946-6 MSD
Matrix: Water
Analysis Batch: 420464

Client Sample ID: BAW-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	<1.4		10.0	11.2		mg/L		112	77 - 128	1	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	Sampler: Philip Evans	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-78469-29398.1
Client Contact: Mr. Cale Sellers	Phone: 850-336-492	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Southern Company				Job #:

Address: PO BOX 2641 GSC8	Due Date Requested:
City: Birmingham	TAT Requested (days):
State, Zip: AL, 35291	
Phone: 205-992-7762(Tel)	PO #: SCS10347656
Email: CBSELLER@SOUTHERNCO.COM	WO #:
Project Name: CCR -Plant Daniel	Project #: 40006621
Site: Mississippi	SSOW#:

Analysis Requested

400-161946 COC

Preservation Codes:

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)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228	SM4500_Cl_E, SM4500_SO4_E	6020 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Li,Pb,Se,Mo,Tl	2540C - Total Dissolved Solids	4500_F_C - Fluoride	Ra226Ra228_GFPC - Radium 226 + Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N	D		
BAW-1	11/8/18	1220	G	Water			X	X	X	X	X	X		
BAW-2A	11/9/18	1216		Water										
BAW-3	11/8/18	1345		Water										
BAW-4	11/8/18	1445		Water										
BAW-5	11/9/18	0712		Water										
BAW-7	11/9/18	1115		Water										
Dup-01	11/8/18	1120		Water										
Dup-02	11/9/18	1116		Water										
EB-01	11/9/18	1142	↓	Water			↓	↓	↓	↓	↓	↓		
FB-01	11/9/18	0715	G	Water			X	X	X	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
	11/10/18 0800	RDH		11/10/18 0800	RDH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11/10/18 0835	RDH		11/10/18 0855	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.1°C, 0.7°C IR7

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-161946-1
SDG Number: Bottom Ash Pond

Login Number: 161946
List Number: 1
Creator: Perez, Trina M

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	0.1°C, 0.7°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 <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: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-1
SDG: Bottom Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	12-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-161946-2
TestAmerica Sample Delivery Group: Bottom Ash Pond
Client Project/Site: CCR -Plant Daniel

For:
Southern Company
PO BOX 2641 GSC8
Birmingham, Alabama 35291

Attn: Mr. Cale B. Sellers

Cheyenne R Whitmire

Authorized for release by:
12/11/2018 1:16:09 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
cheyenne.whitmire@testamericainc.com

Table of Contents

Job ID: 400-161946-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-161946-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-401053: The following samples had matrices that deviated from the normal water matrix: DUP-01 (400-161946-7), DUP-02 (400-161946-8), EB-01 (400-161946-9) and FB-01 (400-161946-10). The samples were yellow and contained white particles.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-401050: The following samples had matrices that deviated from the normal water matrix: DUP-01 (400-161946-7), DUP-02 (400-161946-8), EB-01 (400-161946-9) and FB-01 (400-161946-10). The samples were yellow and contained white particles.

Method Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-161946-1	BAW-1	Water	11/08/18 12:20	11/10/18 08:35
400-161946-2	BAW-2A	Water	11/09/18 12:16	11/10/18 08:35
400-161946-3	BAW-3	Water	11/08/18 13:45	11/10/18 08:35
400-161946-4	BAW-4	Water	11/08/18 14:45	11/10/18 08:35
400-161946-5	BAW-5	Water	11/09/18 07:12	11/10/18 08:35
400-161946-6	BAW-7	Water	11/09/18 11:15	11/10/18 08:35
400-161946-7	DUP-01	Water	11/08/18 11:20	11/10/18 08:35
400-161946-8	DUP-02	Water	11/09/18 11:16	11/10/18 08:35
400-161946-9	EB-01	Water	11/09/18 11:42	11/10/18 08:35
400-161946-10	FB-01	Water	11/09/18 07:15	11/10/18 08:35

Client Sample ID: BAW-1

Date Collected: 11/08/18 12:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-1

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132	U	0.103	0.104	1.00	0.148	pCi/L	11/14/18 13:00	12/07/18 10:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0152	U	0.212	0.212	1.00	0.384	pCi/L	11/14/18 13:38	12/04/18 10:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:20*	*1*
Y Carrier	*82.2*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:20*	*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	0.117	U	0.236	0.236	5.00	0.384	pCi/L		12/11/18 09:59	1

Client Sample ID: BAW-2A

Date Collected: 11/09/18 12:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-2

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.166		0.114	0.115	1.00	0.156	pCi/L	11/14/18 13:00	12/07/18 10:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0130	U	0.238	0.238	1.00	0.428	pCi/L	11/14/18 13:38	12/04/18 10:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:20*	*1*
Y Carrier	*79.3*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:20*	*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	0.179	U	0.264	0.264	5.00	0.428	pCi/L		12/11/18 09:59	1

Client Sample ID: BAW-3

Date Collected: 11/08/18 13:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0629	U	0.0789	0.0791	1.00	0.130	pCi/L	11/14/18 13:00	12/07/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.280	U	0.278	0.279	1.00	0.452	pCi/L	11/14/18 13:38	12/04/18 10:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:20*	*1*
Y Carrier	*83.7*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:20*	*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	0.343	U	0.289	0.290	5.00	0.452	pCi/L		12/11/18 09:59	1

Client Sample ID: BAW-4

Date Collected: 11/08/18 14:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-4

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0346	U	0.0842	0.0843	1.00	0.155	pCi/L	11/14/18 13:00	12/07/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.333	U	0.269	0.271	1.00	0.428	pCi/L	11/14/18 13:38	12/04/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:24*	*1*
Y Carrier	*77.8*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:24*	*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	0.367	U	0.282	0.284	5.00	0.428	pCi/L		12/11/18 09:59	1

Client Sample ID: BAW-5

Date Collected: 11/09/18 07:12
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.153		0.105	0.106	1.00	0.142	pCi/L	11/14/18 13:00	12/07/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.146	U	0.254	0.255	1.00	0.431	pCi/L	11/14/18 13:38	12/04/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.8*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:24*	*1*
Y Carrier	*81.1*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:24*	*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	0.275	0.276	5.00	0.431	pCi/L		12/11/18 09:59	1

Client Sample ID: BAW-7

Date Collected: 11/09/18 11:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-6

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.140	U	0.102	0.103	1.00	0.143	pCi/L	11/14/18 13:00	12/07/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.138	U	0.208	0.208	1.00	0.398	pCi/L	11/14/18 13:38	12/04/18 10:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:24*	*1*
Y Carrier	*81.5*		*40 - 110*	*11/14/18 13:38*	*12/04/18 10:24*	*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	0.00226	U	0.232	0.232	5.00	0.398	pCi/L		12/11/18 09:59	1

Client Sample ID: DUP-01

Date Collected: 11/08/18 11:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.227**		0.130	0.131	1.00	0.153	pCi/L	11/14/18 16:30	12/07/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.1*		*40 - 110*	*11/14/18 16:30*	*12/07/18 05:45*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0219	U	0.324	0.324	1.00	0.583	pCi/L	11/14/18 17:00	12/05/18 14:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.1*		*40 - 110*	*11/14/18 17:00*	*12/05/18 14:58*	*1*
Y Carrier	*83.7*		*40 - 110*	*11/14/18 17:00*	*12/05/18 14:58*	*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	0.205	U	0.349	0.349	5.00	0.583	pCi/L		12/11/18 09:59	1

Client Sample ID: DUP-02

Date Collected: 11/09/18 11:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-8

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.106	U	0.108	0.108	1.00	0.168	pCi/L	11/14/18 16:30	12/07/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*11/14/18 16:30*	*12/07/18 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	-0.177	U	0.298	0.299	1.00	0.567	pCi/L	11/14/18 17:00	12/05/18 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*11/14/18 17:00*	*12/05/18 14:59*	*1*
Y Carrier	*84.9*		*40 - 110*	*11/14/18 17:00*	*12/05/18 14:59*	*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	-0.0711	U	0.317	0.318	5.00	0.567	pCi/L		12/11/18 09:59	1

Client Sample ID: EB-01

Date Collected: 11/09/18 11:42
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-9

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00634	U	0.0706	0.0706	1.00	0.158	pCi/L	11/14/18 16:30	12/07/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*11/14/18 16:30*	*12/07/18 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	0.0890	U	0.293	0.293	1.00	0.513	pCi/L	11/14/18 17:00	12/05/18 15:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*11/14/18 17:00*	*12/05/18 15:00*	*1*
Y Carrier	*84.9*		*40 - 110*	*11/14/18 17:00*	*12/05/18 15:00*	*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	0.0826	U	0.301	0.301	5.00	0.513	pCi/L		12/11/18 09:59	1

Client Sample ID: FB-01

Date Collected: 11/09/18 07:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-10

Matrix: Water

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	0.0830	0.0830	1.00	0.181	pCi/L	11/14/18 16:30	12/07/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*11/14/18 16:30*	*12/07/18 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	-0.237	U	0.241	0.242	1.00	0.484	pCi/L	11/14/18 17:00	12/05/18 14:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*11/14/18 17:00*	*12/05/18 14:59*	*1*
Y Carrier	*87.1*		*40 - 110*	*11/14/18 17:00*	*12/05/18 14:59*	*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	0.255	0.256	5.00	0.484	pCi/L		12/11/18 09:59	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	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: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Client Sample ID: BAW-1
Date Collected: 11/08/18 12:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			400977	11/14/18 13:00	CMM	TAL SL
Total/NA	Analysis	9315		1	404525	12/07/18 10:23	RTM	TAL SL
Total/NA	Prep	PrecSep_0			400980	11/14/18 13:38	CMM	TAL SL
Total/NA	Analysis	9320		1	403970	12/04/18 10:20	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: BAW-2A
Date Collected: 11/09/18 12:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			400977	11/14/18 13:00	CMM	TAL SL
Total/NA	Analysis	9315		1	404525	12/07/18 10:23	RTM	TAL SL
Total/NA	Prep	PrecSep_0			400980	11/14/18 13:38	CMM	TAL SL
Total/NA	Analysis	9320		1	403970	12/04/18 10:20	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: BAW-3
Date Collected: 11/08/18 13:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			400977	11/14/18 13:00	CMM	TAL SL
Total/NA	Analysis	9315		1	404525	12/07/18 10:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			400980	11/14/18 13:38	CMM	TAL SL
Total/NA	Analysis	9320		1	403970	12/04/18 10:20	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: BAW-4
Date Collected: 11/08/18 14:45
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			400977	11/14/18 13:00	CMM	TAL SL
Total/NA	Analysis	9315		1	404525	12/07/18 10:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			400980	11/14/18 13:38	CMM	TAL SL
Total/NA	Analysis	9320		1	403957	12/04/18 10:24	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Client Sample ID: BAW-5
Date Collected: 11/09/18 07:12
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			400977	11/14/18 13:00	CMM	TAL SL
Total/NA	Analysis	9315		1	404525	12/07/18 10:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			400980	11/14/18 13:38	CMM	TAL SL
Total/NA	Analysis	9320		1	403957	12/04/18 10:24	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: BAW-7
Date Collected: 11/09/18 11:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			400977	11/14/18 13:00	CMM	TAL SL
Total/NA	Analysis	9315		1	404525	12/07/18 10:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			400980	11/14/18 13:38	CMM	TAL SL
Total/NA	Analysis	9320		1	403957	12/04/18 10:24	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: DUP-01
Date Collected: 11/08/18 11:20
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			401050	11/14/18 16:30	CLP	TAL SL
Total/NA	Analysis	9315		1	404527	12/07/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			401053	11/14/18 17:00	CLP	TAL SL
Total/NA	Analysis	9320		1	404148	12/05/18 14:58	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: DUP-02
Date Collected: 11/09/18 11:16
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			401050	11/14/18 16:30	CLP	TAL SL
Total/NA	Analysis	9315		1	404527	12/07/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			401053	11/14/18 17:00	CLP	TAL SL
Total/NA	Analysis	9320		1	404148	12/05/18 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Client Sample ID: EB-01

Date Collected: 11/09/18 11:42
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			401050	11/14/18 16:30	CLP	TAL SL
Total/NA	Analysis	9315		1	404527	12/07/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			401053	11/14/18 17:00	CLP	TAL SL
Total/NA	Analysis	9320		1	404148	12/05/18 15:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Client Sample ID: FB-01

Date Collected: 11/09/18 07:15
Date Received: 11/10/18 08:35

Lab Sample ID: 400-161946-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			401050	11/14/18 16:30	CLP	TAL SL
Total/NA	Analysis	9315		1	404527	12/07/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			401053	11/14/18 17:00	CLP	TAL SL
Total/NA	Analysis	9320		1	404148	12/05/18 14:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	404952	12/11/18 09:59	RTM	TAL SL

Laboratory References:

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

Rad

Prep Batch: 400977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	PrecSep-21	
400-161946-2	BAW-2A	Total/NA	Water	PrecSep-21	
400-161946-3	BAW-3	Total/NA	Water	PrecSep-21	
400-161946-4	BAW-4	Total/NA	Water	PrecSep-21	
400-161946-5	BAW-5	Total/NA	Water	PrecSep-21	
400-161946-6	BAW-7	Total/NA	Water	PrecSep-21	
MB 160-400977/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-400977/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-83795-C-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 400980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-1	BAW-1	Total/NA	Water	PrecSep_0	
400-161946-2	BAW-2A	Total/NA	Water	PrecSep_0	
400-161946-3	BAW-3	Total/NA	Water	PrecSep_0	
400-161946-4	BAW-4	Total/NA	Water	PrecSep_0	
400-161946-5	BAW-5	Total/NA	Water	PrecSep_0	
400-161946-6	BAW-7	Total/NA	Water	PrecSep_0	
MB 160-400980/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-400980/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-83795-C-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Prep Batch: 401050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-7	DUP-01	Total/NA	Water	PrecSep-21	
400-161946-8	DUP-02	Total/NA	Water	PrecSep-21	
400-161946-9	EB-01	Total/NA	Water	PrecSep-21	
400-161946-10	FB-01	Total/NA	Water	PrecSep-21	
MB 160-401050/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-401050/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-83795-A-12-B DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 401053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161946-7	DUP-01	Total/NA	Water	PrecSep_0	
400-161946-8	DUP-02	Total/NA	Water	PrecSep_0	
400-161946-9	EB-01	Total/NA	Water	PrecSep_0	
400-161946-10	FB-01	Total/NA	Water	PrecSep_0	
MB 160-401053/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-401053/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-83834-C-12-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-400977/23-A
Matrix: Water
Analysis Batch: 404526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 400977

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.002092	U	0.0491	0.0491	1.00	0.114	pCi/L	11/14/18 13:00	12/07/18 10:27	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*11/14/18 13:00*	*12/07/18 10:27*	*1*

Lab Sample ID: LCS 160-400977/1-A
Matrix: Water
Analysis Batch: 404525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 400977

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	11.59		1.27	1.00	0.161	pCi/L	102	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.0*		*40 - 110*

Lab Sample ID: 180-83795-C-1-A DU
Matrix: Water
Analysis Batch: 404527

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 400977

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0353	U		-0.01660	U	0.0411	1.00	0.114	pCi/L			0.45	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*90.3*		*40 - 110*

Lab Sample ID: MB 160-401050/24-A
Matrix: Water
Analysis Batch: 404526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 401050

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0002700	U	0.00634	0.00634	1.00	0.0147	pCi/L	11/14/18 16:30	12/07/18 05:48	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*11/14/18 16:30*	*12/07/18 05:48*	*1*

Lab Sample ID: LCS 160-401050/1-A
Matrix: Water
Analysis Batch: 404525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 401050

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			1.14	1.198		0.136	1.00	0.0202	pCi/L	105	68 - 137		

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

Lab Sample ID: LCS 160-401050/1-A
Matrix: Water
Analysis Batch: 404525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 401050

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.3		40 - 110

Lab Sample ID: 180-83795-A-12-B DU
Matrix: Water
Analysis Batch: 404525

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 401050

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	-0.00141	U		0.05654	U	0.0993	1.00	0.177	pCi/L			0.30	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	85.0		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-400980/23-A
Matrix: Water
Analysis Batch: 403957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 400980

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1893	U	0.237	0.238	1.00	0.455	pCi/L	11/14/18 13:38	12/04/18 10:26	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110	11/14/18 13:38	12/04/18 10:26	1
Y Carrier	78.1		40 - 110	11/14/18 13:38	12/04/18 10:26	1

Lab Sample ID: LCS 160-400980/1-A
Matrix: Water
Analysis Batch: 403970

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 400980

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.16	8.261		1.01	1.00	0.429	pCi/L	90	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	92.0		40 - 110
Y Carrier	81.9		40 - 110

Lab Sample ID: 180-83795-C-1-B DU
Matrix: Water
Analysis Batch: 403957

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 400980

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.160	U		0.07125	U	0.245	1.00	0.428	pCi/L			0.18	1

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

Lab Sample ID: 180-83795-C-1-B DU
Matrix: Water
Analysis Batch: 403957

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 400980

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	90.3		40 - 110
Y Carrier	80.4		40 - 110

Lab Sample ID: MB 160-401053/24-A
Matrix: Water
Analysis Batch: 404148

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 401053

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.01370	U	0.0303	0.0303	1.00	0.0572	pCi/L	11/14/18 17:00	12/05/18 14:58	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110	11/14/18 17:00	12/05/18 14:58	1
Y Carrier	81.5		40 - 110	11/14/18 17:00	12/05/18 14:58	1

Lab Sample ID: LCS 160-401053/1-A
Matrix: Water
Analysis Batch: 404147

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 401053

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			0.915	0.8677		0.104	1.00	0.0388	pCi/L	95	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.3		40 - 110
Y Carrier	83.7		40 - 110

Lab Sample ID: 180-83834-C-12-B DU
Matrix: Water
Analysis Batch: 404148

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 401053

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	-0.256	U		-0.2975	U	0.293	1.00	0.582	pCi/L			0.07	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	89.1		40 - 110
Y Carrier	85.2		40 - 110

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	Sampler: Philip Evans	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-78469-29398.1
Client Contact: Mr. Cale Sellers	Phone: 850-336-492	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Southern Company				Job #:
Address: PO BOX 2641 GSC8	Due Date Requested:			
City: Birmingham	TAT Requested (days):			
State, Zip: AL, 35291				
Phone: 205-992-7762(Tel)	PO #: SCS10347656			
Email: CBSELLER@SOUTHERNCO.COM	WO #:			
Project Name: CCR -Plant Daniel	Project #: 40006621			
Site: Mississippi	SSOW#:			

Analysis Requested

400-161946 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, 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)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228	SM4500_Cl_E, SM4500_SO4_E	6020 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Li,Pb,Se,Mo,Tl	2540C - Total Dissolved Solids	4500_F_C - Fluoride	Ra226Ra228_GFPC - Radium 226 + Radium 228	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N	N	D		
BAW-1	11/8/18	1220	G	Water			X	X	X	X	X	X		
BAW-2A	11/9/18	1216		Water										
BAW-3	11/8/18	1345		Water										
BAW-4	11/8/18	1445		Water										
BAW-5	11/9/18	0712		Water										
BAW-7	11/9/18	1115		Water										
Dup-01	11/8/18	1120		Water										
Dup-02	11/9/18	1116		Water										
EB-01	11/9/18	1142	↓	Water			↓	↓	↓	↓	↓	↓		
FB-01	11/9/18	0715	G	Water			X	X	X	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/10/18 0800	RDH		11/10/18 0800	RDH
2		11/10/18 0835	RDH		11/10/18 0855	
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.1°C, 0.7°C IR7

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-161946-2
SDG Number: Bottom Ash Pond

Login Number: 161946
List Number: 1
Creator: Perez, Trina M

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	0.1°C, 0.7°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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-161946-2
SDG Number: Bottom Ash Pond

Login Number: 161946
List Number: 2
Creator: Dupart, Lacee S

List Source: TestAmerica St. Louis
List Creation: 11/13/18 11:54 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	12-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18 *
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-18 *
Iowa	State Program	7	373	12-01-18 *
Kansas	NELAP	7	E-10236	10-31-19
Kentucky (DW)	State Program	4	90125	12-31-18
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18 *
Maryland	State Program	3	310	09-30-19
Michigan	State Program	5	9005	06-30-19
Missouri	State Program	7	780	06-30-19

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

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR -Plant Daniel

TestAmerica Job ID: 400-161946-2
SDG: Bottom Ash Pond

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-12	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

Product Name: Low-Flow System

Date: 2018-11-08 12:20:03

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Plant Daniel BAW wells	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	67 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	58.1 ft

Well Information:		Pumping Information:	
Well ID	BAW-1	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7790493 L
Well Total Depth	60.6 ft	Calculated Sample Rate	300 sec
Screen Length	5 ft	Stabilization Drawdown	0.05 in
Depth to Water	23.45 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	12:07:06	300.03	27.04	5.05	29.54	0.70	23.50	4.07	122.51
Last 5	12:12:06	600.10	27.18	5.00	29.59	0.73	23.50	4.00	121.85
Last 5	12:17:06	900.05	27.11	5.00	29.52	0.71	23.50	4.02	120.77
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.14	-0.05	0.05			-0.07	-0.65
Variance 2			-0.07	0.00	-0.08			0.02	-1.08

Notes

Sample time @1220. PC 72. Duplicate 01 @1120.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-09 12:14:15

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Plant Daniel BAW wells	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	62.2 ft

Well Information:		Pumping Information:	
Well ID	BAW-2A	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.5324396 L
Well Total Depth	67.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	32.80 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	11:52:15	300.04	27.52	5.00	32.94	2.29	32.80	2.94	130.14
Last 5	11:57:15	600.04	27.28	4.94	33.84	2.10	32.80	3.39	128.27
Last 5	12:02:15	900.03	26.52	4.93	34.46	2.02	32.80	3.46	125.43
Last 5	12:07:15	1200.04	26.47	4.92	34.71	1.94	32.80	3.43	123.50
Last 5	12:12:15	1500.04	26.33	4.92	35.03	1.85	32.80	3.35	121.10
Variance 0			-0.75	-0.01	0.62			0.07	-2.84
Variance 1			-0.05	-0.01	0.24			-0.04	-1.94
Variance 2			-0.14	-0.00	0.32			-0.07	-2.40

Notes

Sample time @1216. Cloudy 68. EB-01 @ 1142. DUP-02 @ 1116.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-08 13:43:39

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Plant Daniel BAW wells	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	70 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	63.4 ft

Well Information:		Pumping Information:	
Well ID	BAW-3	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7924396 L
Well Total Depth	68.4 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	32.38 ft	Total Volume Pumped	18 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	13:21:35	1500.03	27.62	4.84	39.87	3.44	32.40	0.27	114.70
Last 5	13:26:35	1800.03	27.48	4.84	39.91	2.60	32.40	0.27	113.70
Last 5	13:31:35	2100.03	27.71	4.84	39.84	2.25	32.40	0.27	112.64
Last 5	13:36:35	2400.03	27.75	4.84	39.74	1.56	32.40	0.26	112.06
Last 5	13:41:35	2700.03	27.82	4.83	39.69	1.40	32.40	0.26	111.82
Variance 0			0.23	-0.00	-0.07			-0.00	-1.06
Variance 1			0.04	-0.00	-0.10			-0.01	-0.58
Variance 2			0.07	-0.00	-0.05			-0.00	-0.24

Notes

Sample time @1345. PC 72.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-08 14:41:31

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Plant Daniel BAW wells	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	75 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	64.9 ft

Well Information:		Pumping Information:	
Well ID	BAW-4	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8147567 L
Well Total Depth	69.9 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	29.90 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	14:19:26	600.03	26.26	5.29	39.42	0.68	29.95	0.15	-49.31
Last 5	14:24:26	900.03	26.01	5.29	39.40	0.65	29.95	0.15	-48.51
Last 5	14:29:26	1200.03	26.19	5.29	39.46	0.65	29.95	0.16	-47.81
Last 5	14:34:26	1500.03	26.32	5.29	39.39	0.62	29.95	0.16	-47.38
Last 5	14:39:30	1804.03	26.28	5.29	39.41	0.70	29.95	0.17	-46.28
Variance 0			0.18	-0.00	0.06			0.01	0.70
Variance 1			0.13	0.00	-0.07			0.00	0.43
Variance 2			-0.03	-0.00	0.03			0.00	1.10

Notes

Sample time @1445. Cloudy 70.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-09 07:15:13

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Plant Daniel BAW wells	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	64.1 ft

Well Information:		Pumping Information:	
Well ID	BAW-5	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8013664 L
Well Total Depth	69.1 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	33.40 ft	Total Volume Pumped	14 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	06:46:37	900.04	25.43	6.24	112.79	2.50	33.42	0.15	-79.89
Last 5	06:51:37	1200.04	25.60	6.26	112.94	2.01	33.42	0.15	-100.28
Last 5	06:56:37	1500.04	25.59	6.26	113.19	1.80	33.42	0.16	-118.77
Last 5	07:01:37	1800.04	25.60	6.27	113.60	1.67	33.42	0.16	-127.49
Last 5	07:06:37	2100.04	25.78	6.27	113.36	1.70	33.42	0.16	-125.90
Variance 0			-0.01	0.01	0.26			0.00	-18.48
Variance 1			0.01	0.00	0.41			0.00	-8.73
Variance 2			0.18	-0.00	-0.24			-0.00	1.59

Notes

Sample time @ 0712. Cloudy 68. FB-01 @0715.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-09 11:16:48

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	QED
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Plant Daniel BAW wells	Tubing Diameter	.17 in
Site Name	Daniel	Tubing Length	65 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	58.5 ft

Well Information:		Pumping Information:	
Well ID	BAW-7	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7701225 L
Well Total Depth	63.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	26.92 ft	Total Volume Pumped	80 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	10:53:47	10818.03	26.46	4.92	30.98	2.48	26.95	3.68	123.14
Last 5	10:58:47	11118.04	26.12	4.92	30.96	2.26	26.95	3.64	123.37
Last 5	11:03:47	11418.08	26.80	4.92	31.00	2.15	26.95	3.67	124.17
Last 5	11:08:51	11722.05	26.87	4.93	30.93	2.04	26.95	3.66	124.78
Last 5	11:13:54	12025.04	26.82	4.92	30.94	1.95	26.95	3.67	125.37
Variance 0			0.68	0.00	0.04			0.03	0.80
Variance 1			0.07	0.00	-0.06			-0.02	0.61
Variance 2			-0.05	-0.00	0.01			0.01	0.58

Notes

Sample time @ 1115. PC 74.

Grab Samples

Appendix B

GROUNDWATER STATS CONSULTING

January 22, 2019

Southern Company Services
Attn: Ms. Lauren Parker
3550 Colonnade Parkway
Birmingham, AL 35243

Re: Plant Daniel Ash Pond B
Assessment Monitoring Event – November 2018

Dear Ms. Parker,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the evaluation of groundwater data for the November 2018 Assessment Monitoring event for Mississippi Power Company's Plant Daniel Ash Pond B. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the USEPA Unified Guidance (2009).

Sampling began at site for the CCR program in 2016. The monitoring well network, as provided by Southern Company Services, consists of the wells listed below. Note that upgradient well BAW-2 was reportedly damaged and, therefore, replacement well BAW-2A was installed. The original 9 samples from well BAW-2 are included in this analysis, along with the most recent samples from replacement well BAW-2A.

- **Upgradient wells:** BAW-1, BAW-2 and BAW-2A
- **Downgradient wells:** BAW-3, BAW-4, BAW-5 and BAW-7

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was prepared according to the Statistical Analysis Plan approved by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to Groundwater Stats Consulting.

The CCR program consists of the following constituents:

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS;
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium.

Time series plots for Appendix III and IV parameters are provided for all wells and constituents; and are used to evaluate concentrations over the entire record. Values in background which have previously been flagged as outliers may be seen in a lighter font and disconnected symbol on the graphs.

Evaluation of Appendix III Parameters

Interwell prediction limits combined with a 1-of-2 verification strategy were constructed for boron, calcium, chloride, fluoride, pH, sulfate and TDS. In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When the resample confirms the initial exceedance, a statistically significant increase (SSI) is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no further action is necessary. The results of those findings show statistically significant increases (SSIs) for boron, calcium, chloride and pH at well BAW-5; calcium and TDS at well BAW-4; and chloride at well BAW3. The Prediction Limit Summary tables follow this letter.

When a statistically significant increase was identified, the data were further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether data are statistically increasing, decreasing or stable. Several statistically significant decreasing trends were present; however, no statistically significant increasing trends were noted. The Trend Test Summary Table follows this letter.

Evaluation of Appendix IV Parameters

Parametric tolerance limits were used to calculate background limits from pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. The background limits were

then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h).

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

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

USEPA revised the Federal CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR 257.95(h)(2). Following the above federal rule requirements, GWPS have been established for statistical comparison of Appendix IV constituents. The GWPS table following this letter provides a summary of the limits established for each of the Appendix IV parameters.

To complete the statistical comparison to GWPS, confidence intervals were constructed for each of the Appendix IV parameters for each downgradient well. Those confidence intervals were compared to the GWPS established under the federal rules. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. No confidence interval exceedances were noted except for lithium at well BAW-5.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Plant Daniel Ash Pond B. If you have any questions or comments, please feel free to contact me.

For Groundwater Stats Consulting,

Kristina Rayner

Kristina L. Rayner
Groundwater Statistician

1st Semi-Annual

Interwell Prediction Limits - Significant Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/15/2019, 1:28 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**BAW-5**	**0.021**	**n/a**	**6/2/2018**	**0.16**	**Yes**	**22**	**100**	**n/a**	**0.003586**	**NP Inter (NDs) 1 of 2**
Calcium (mg/L)	**BAW-4**	**2.381**	**n/a**	**6/2/2018**	**2.9**	**Yes**	**22**	**4.545**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**BAW-5**	**2.381**	**n/a**	**6/2/2018**	**15**	**Yes**	**22**	**4.545**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	**BAW-3**	**6.869**	**n/a**	**6/2/2018**	**7.7**	**Yes**	**22**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	**BAW-5**	**6.869**	**n/a**	**6/2/2018**	**8.3**	**Yes**	**22**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
pH (SU)	**BAW-5**	**5.563**	**4.497**	**6/2/2018**	**6.24**	**Yes**	**22**	**0**	**No**	**0.001253**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**BAW-5**	**47.41**	**n/a**	**6/2/2018**	**72**	**Yes**	**22**	**4.545**	**No**	**0.002505**	**Param Inter 1 of 2**

Interwell Prediction Limits - All Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/15/2019, 1:28 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	BAW-3	0.021	n/a	6/2/2018	0.021ND	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
Boron (mg/L)	BAW-4	0.021	n/a	6/2/2018	0.025	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
Boron (mg/L)	**BAW-5**	**0.021**	**n/a**	**6/2/2018**	**0.16**	**Yes**	**22**	**100**	**n/a**	**0.003586**	**NP Inter (NDs) 1 of 2**
Boron (mg/L)	BAW-7	0.021	n/a	6/2/2018	0.021ND	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
Calcium (mg/L)	BAW-3	2.381	n/a	6/2/2018	0.86	No	22	4.545	x^(1/3)	0.002505	Param Inter 1 of 2
Calcium (mg/L)	**BAW-4**	**2.381**	**n/a**	**6/2/2018**	**2.9**	**Yes**	**22**	**4.545**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**BAW-5**	**2.381**	**n/a**	**6/2/2018**	**15**	**Yes**	**22**	**4.545**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	BAW-7	2.381	n/a	6/2/2018	0.6	No	22	4.545	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	**BAW-3**	**6.869**	**n/a**	**6/2/2018**	**7.7**	**Yes**	**22**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	BAW-4	6.869	n/a	6/2/2018	6.1	No	22	0	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	**BAW-5**	**6.869**	**n/a**	**6/2/2018**	**8.3**	**Yes**	**22**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	BAW-7	6.869	n/a	6/2/2018	4.6	No	22	0	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	BAW-3	0.032	n/a	6/2/2018	0.032ND	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	BAW-4	0.032	n/a	6/2/2018	0.05	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	BAW-5	0.032	n/a	6/2/2018	0.06	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	BAW-7	0.032	n/a	6/2/2018	0.032ND	No	22	100	n/a	0.003586	NP Inter (NDs) 1 of 2
pH (SU)	BAW-3	5.563	4.497	6/2/2018	4.83	No	22	0	No	0.001253	Param Inter 1 of 2
pH (SU)	BAW-4	5.563	4.497	6/2/2018	5.22	No	22	0	No	0.001253	Param Inter 1 of 2
pH (SU)	**BAW-5**	**5.563**	**4.497**	**6/2/2018**	**6.24**	**Yes**	**22**	**0**	**No**	**0.001253**	**Param Inter 1 of 2**
pH (SU)	BAW-7	5.563	4.497	6/2/2018	4.87	No	22	0	No	0.001253	Param Inter 1 of 2
Sulfate (mg/L)	BAW-3	5	n/a	6/2/2018	2.9	No	22	77.27	n/a	0.003586	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	BAW-4	5	n/a	6/2/2018	3.7	No	22	77.27	n/a	0.003586	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	BAW-5	5	n/a	6/2/2018	4.3	No	22	77.27	n/a	0.003586	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	BAW-7	5	n/a	6/2/2018	2.8	No	22	77.27	n/a	0.003586	NP Inter (NDs) 1 of 2
Total Dissolved Solids (mg/L)	BAW-3	47.41	n/a	6/2/2018	6	No	22	4.545	No	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	BAW-4	47.41	n/a	6/2/2018	22	No	22	4.545	No	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**BAW-5**	**47.41**	**n/a**	**6/2/2018**	**72**	**Yes**	**22**	**4.545**	**No**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	BAW-7	47.41	n/a	6/2/2018	1.7ND	No	22	4.545	No	0.002505	Param Inter 1 of 2

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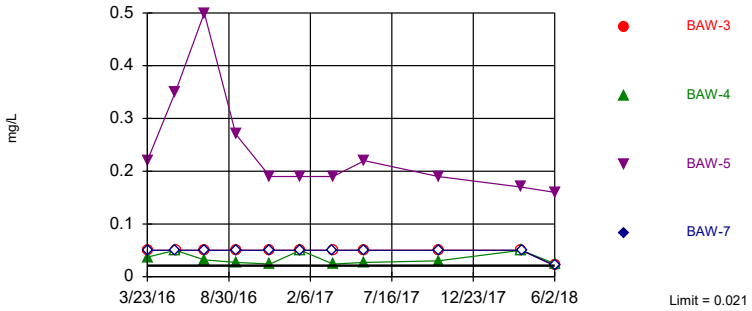
Hollow symbols indicate censored values.

Exceeds Limit: BAW-5

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 22) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.02133. Individual comparison alpha = 0.003586 (1 of 2). Comparing 4 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/15/2019 1:26 PM View: Interwell PLs
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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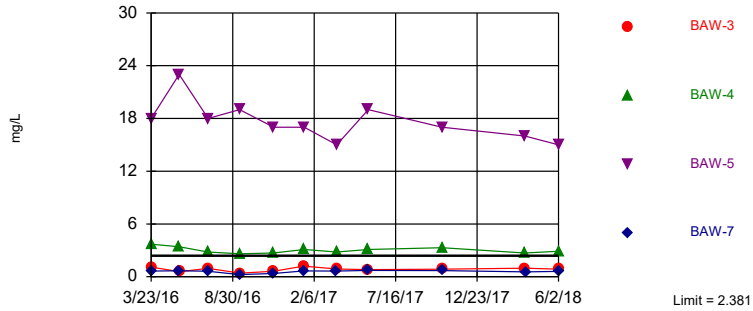
Exceeds Limit: BAW-4, BAW-5

Prediction Limit

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=0.9942, Std. Dev.=0.1828, n=22, 4.545% NDs. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8817, critical = 0.878. Kappa = 1.866 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 4 points to limit.

Constituent: Calcium Analysis Run 1/15/2019 1:26 PM View: Interwell PLs
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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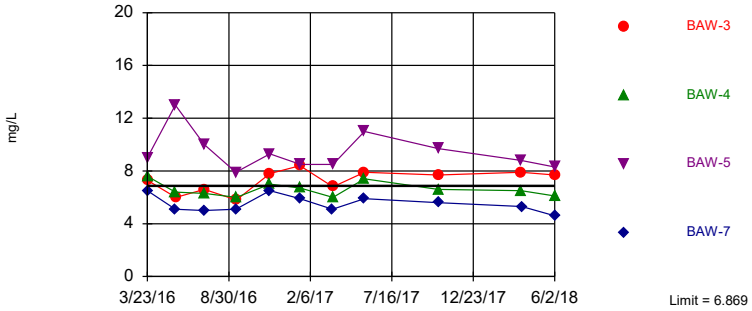
Exceeds Limit: BAW-3, BAW-5

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.477, Std. Dev.=0.7457, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9772, critical = 0.878. Kappa = 1.866 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 4 points to limit.

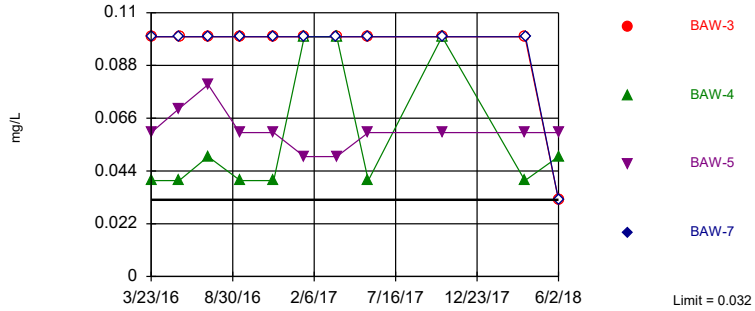
Constituent: Chloride Analysis Run 1/15/2019 1:26 PM View: Interwell PLs
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 22) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.02133. Individual comparison alpha = 0.003586 (1 of 2). Comparing 4 points to limit. Seasonality was not detected with 95% confidence.

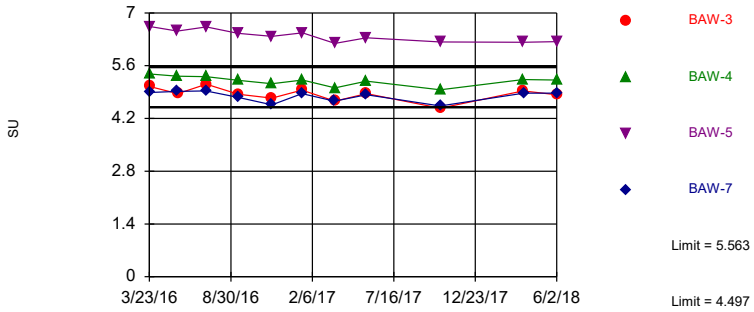
Constituent: Fluoride Analysis Run 1/15/2019 1:26 PM View: Interwell PLs
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Exceeds Limits: BAW-5

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.03, Std. Dev.=0.2856, n=22. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.953, critical = 0.878. Kappa = 1.866 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001253. Comparing 4 points to limit.

Constituent: pH Analysis Run 1/15/2019 1:26 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

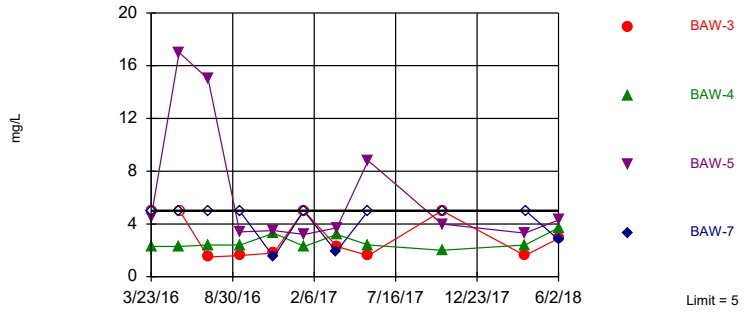
Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 22 background values. 77.27% NDs. Annual per-constituent alpha = 0.02133. Individual comparison alpha = 0.003586 (1 of 2). Comparing 4 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Sulfate Analysis Run 1/15/2019 1:26 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

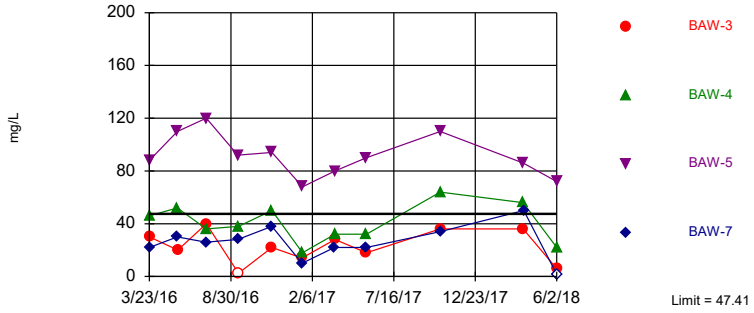
Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Hollow symbols indicate censored values.

Exceeds Limit: BAW-5

Prediction Limit

Interwell Parametric



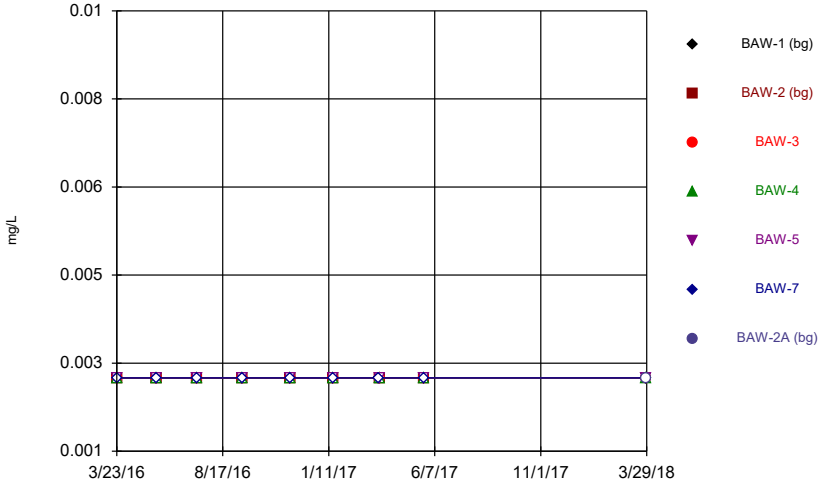
Background Data Summary: Mean=22.48, Std. Dev.=13.36, n=22, 4.545% NDs. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9102, critical = 0.878. Kappa = 1.866 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 4 points to limit.

Constituent: Total Dissolved Solids Analysis Run 1/15/2019 1:26 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

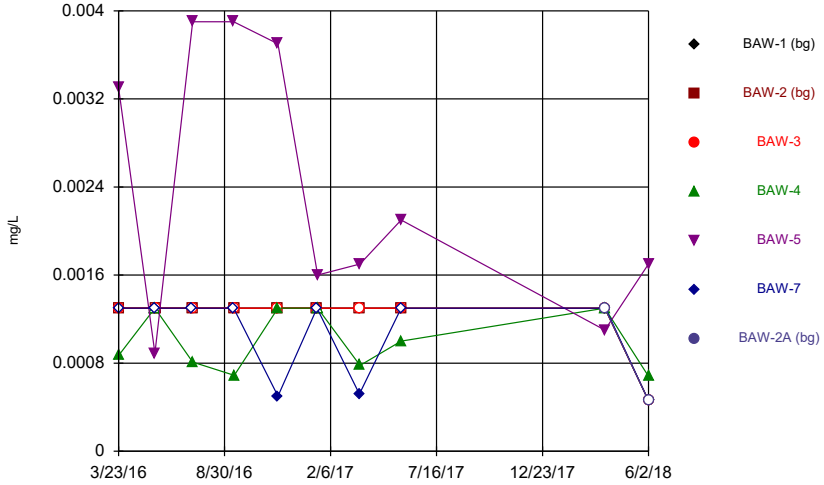
Time Series



Constituent: Antimony Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

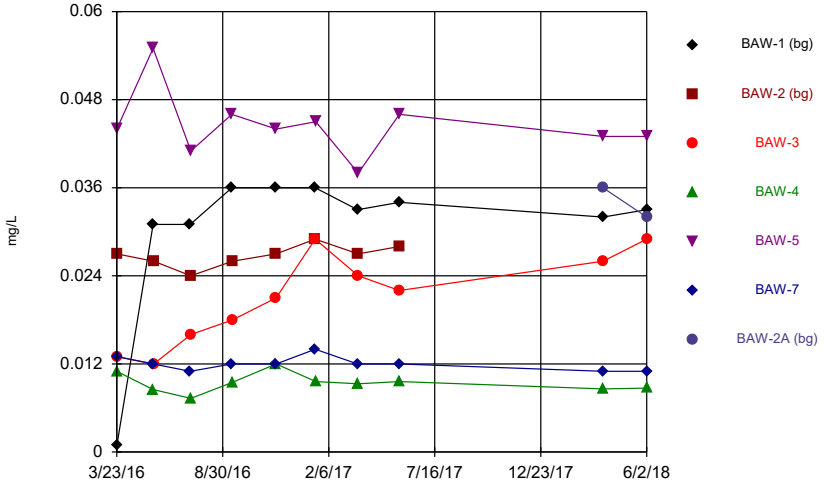
Time Series



Constituent: Arsenic Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

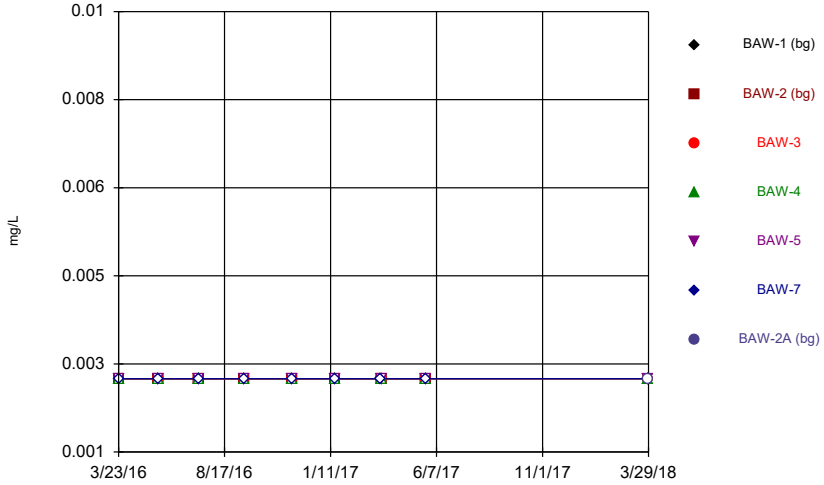
Time Series



Constituent: Barium Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

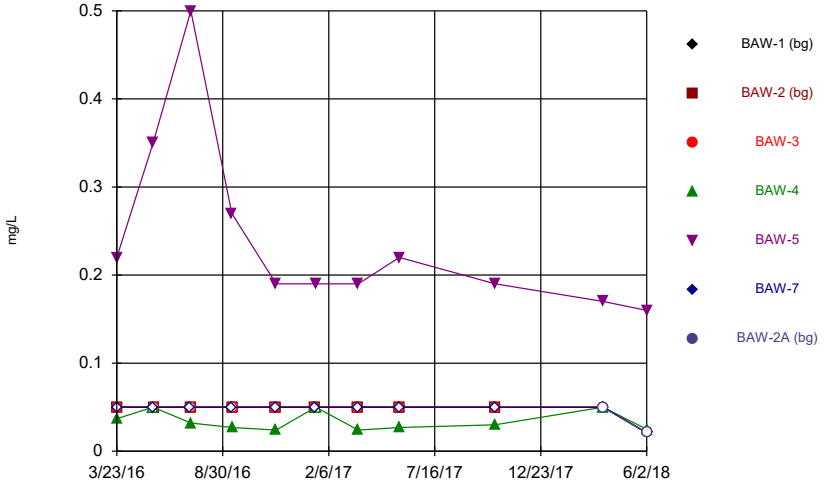
Time Series



Constituent: Beryllium Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

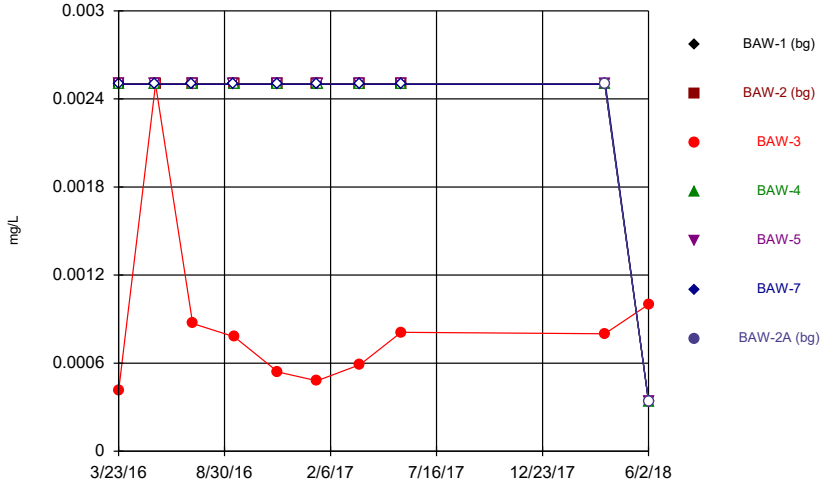
Time Series



Constituent: Boron Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

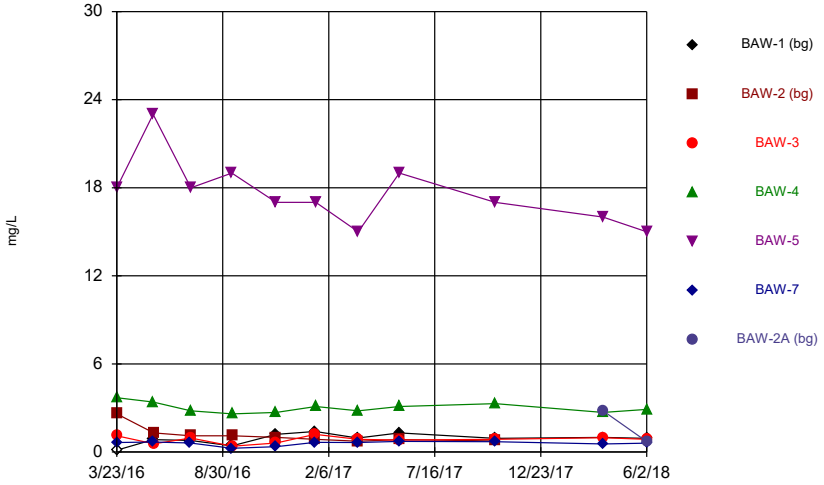
Time Series



Constituent: Cadmium Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

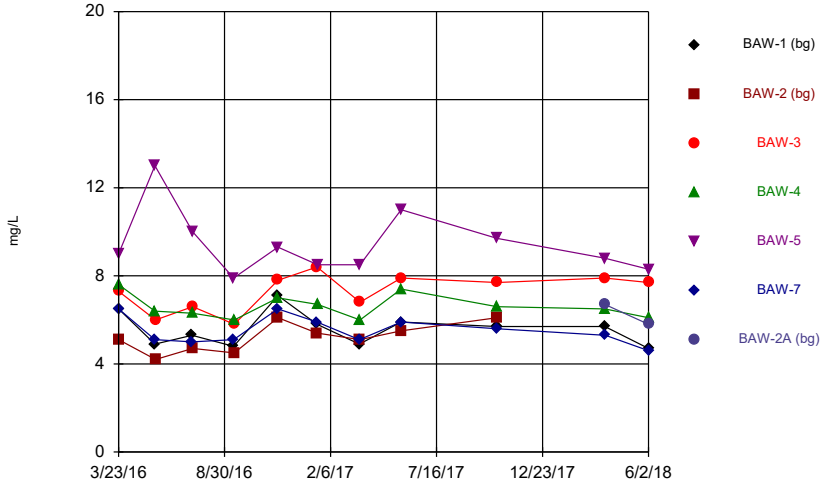
Time Series



Constituent: Calcium Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

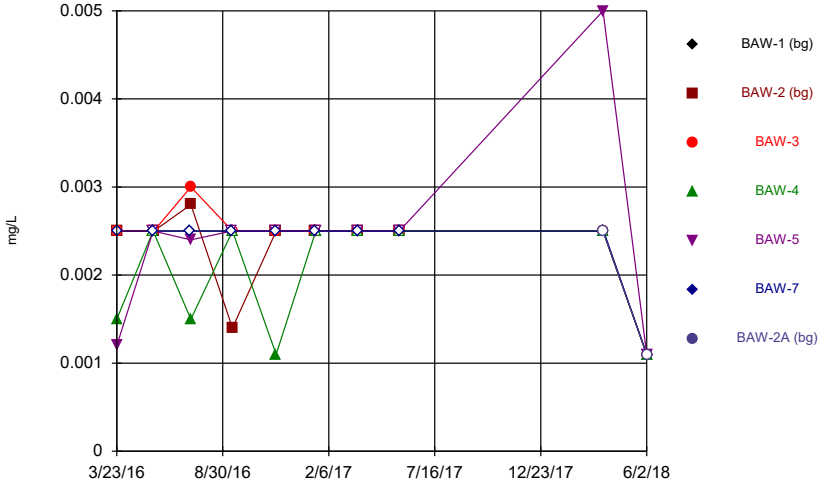
Time Series



Constituent: Chloride Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

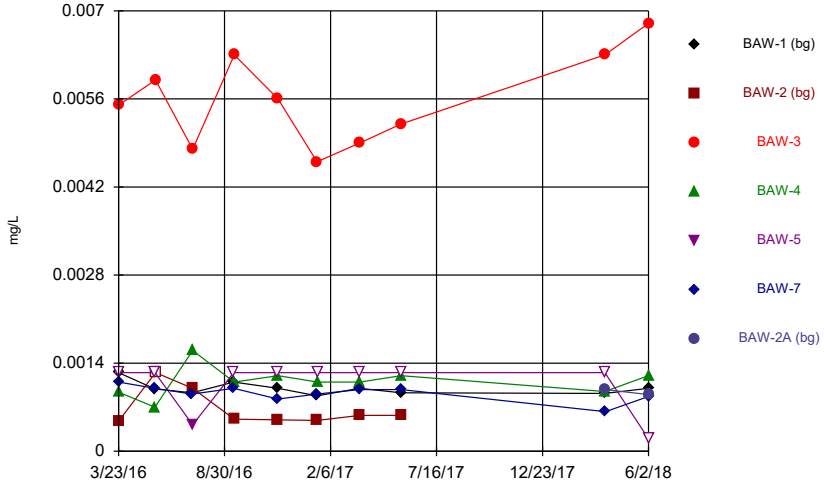
Time Series



Constituent: Chromium Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

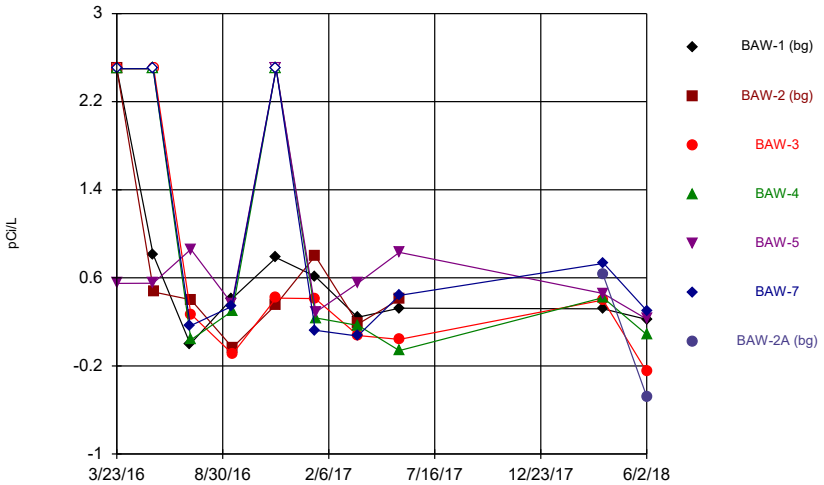
Time Series



Constituent: Cobalt Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

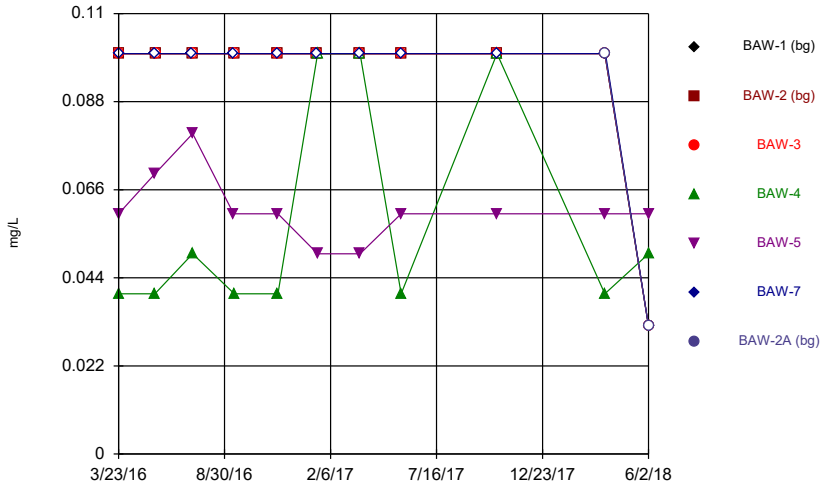
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

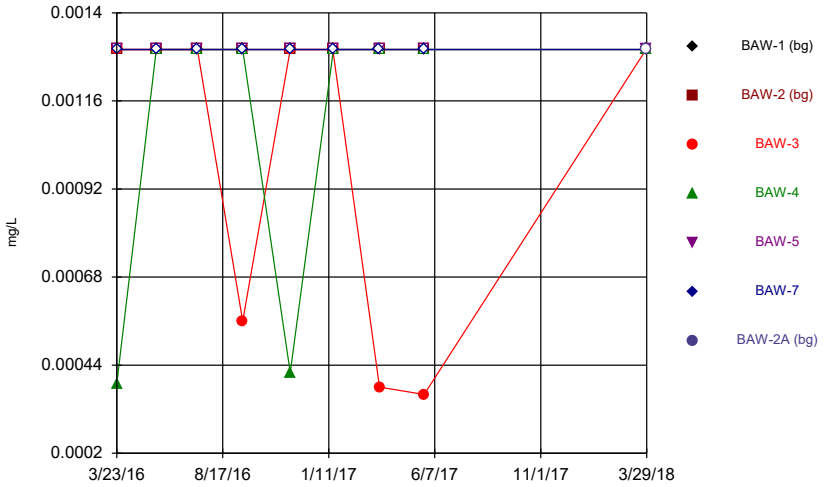
Time Series



Constituent: Fluoride Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

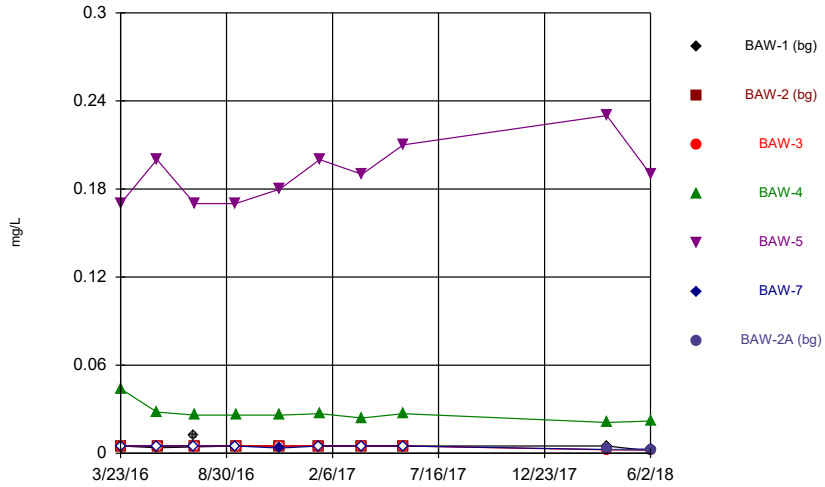
Time Series



Constituent: Lead Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

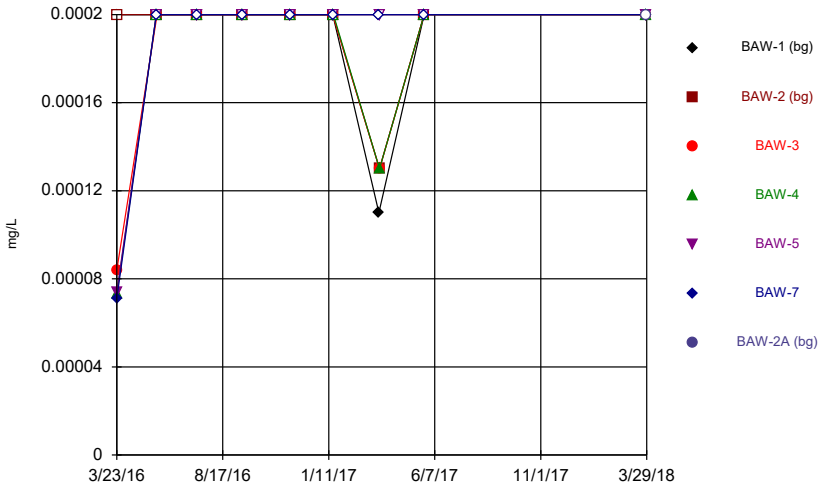
Time Series



Constituent: Lithium Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

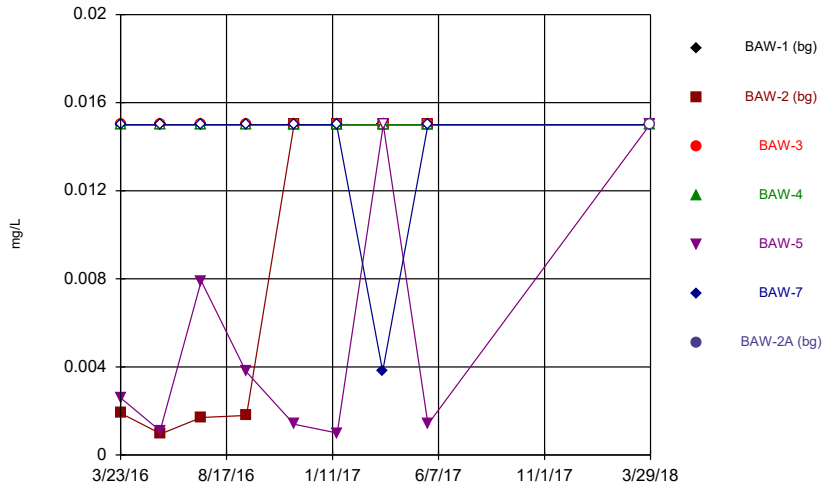
Time Series



Constituent: Mercury Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

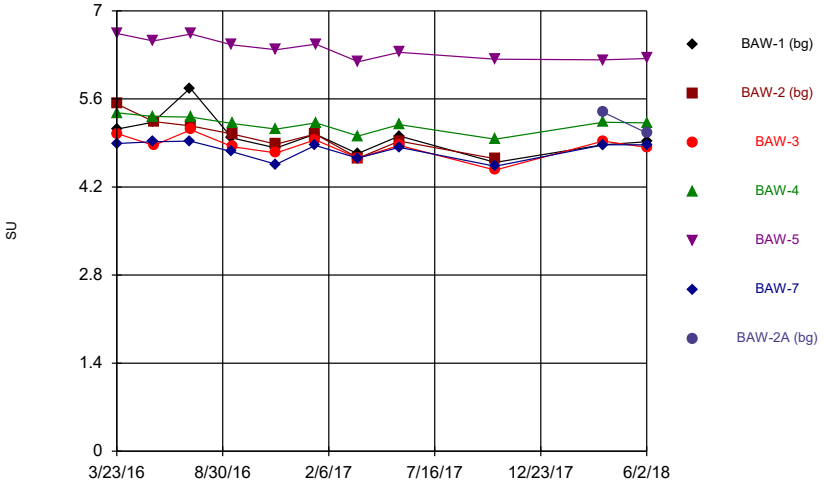
Time Series



Constituent: Molybdenum Analysis Run 1/15/2019 1:30 PM View: Time Series
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Time Series



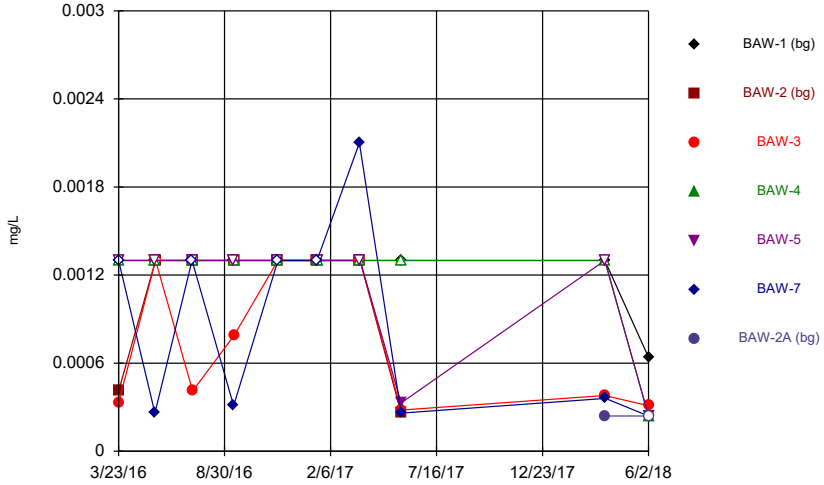
Constituent: pH Analysis Run 1/15/2019 1:30 PM View: Time Series

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Hollow symbols indicate censored values.

Time Series



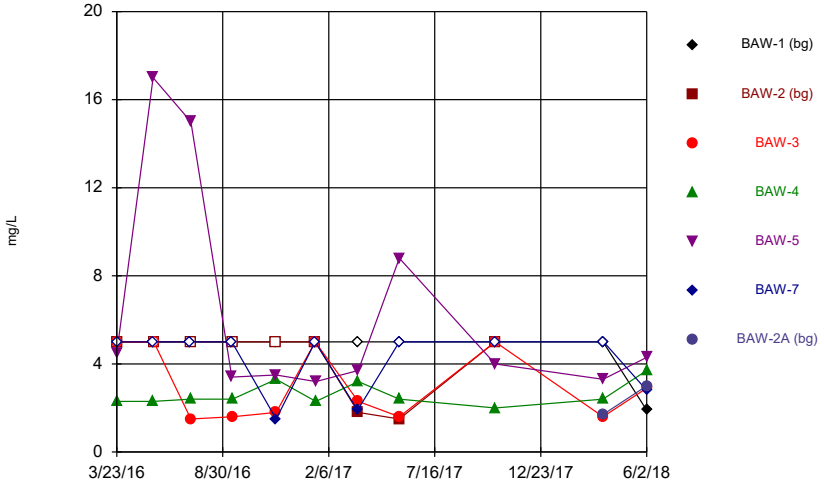
Constituent: Selenium Analysis Run 1/15/2019 1:30 PM View: Time Series

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Hollow symbols indicate censored values.

Time Series



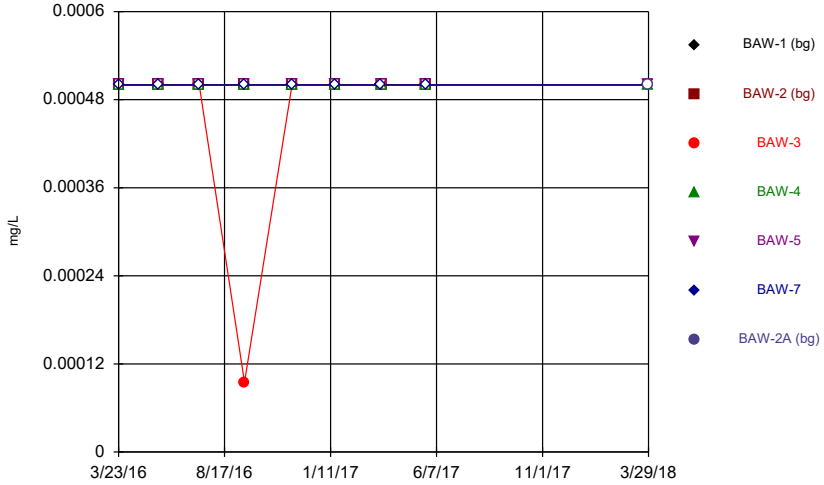
Constituent: Sulfate Analysis Run 1/15/2019 1:30 PM View: Time Series

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Hollow symbols indicate censored values.

Time Series

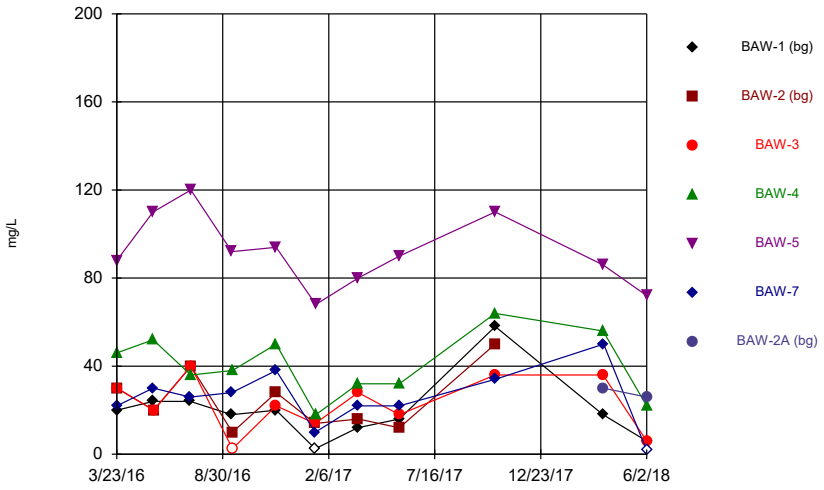


Constituent: Thallium Analysis Run 1/15/2019 1:30 PM View: Time Series

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Hollow symbols indicate censored values.

Time Series



Constituent: Total Dissolved Solids Analysis Run 1/15/2019 1:30 PM View: Time Series

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

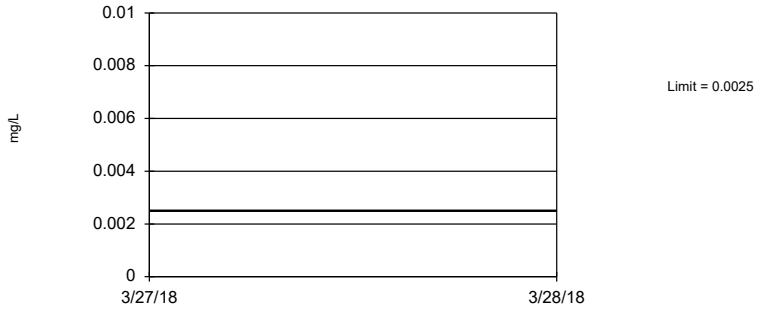
Upper Tolerance Limits - App IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/15/2019, 9:16 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.0025	18	n/a	n/a	100	n/a	n/a	0.3972	NP Inter(NDs)
Arsenic (mg/L)	0.00046	20	n/a	n/a	100	n/a	n/a	0.3585	NP Inter(NDs)
Barium (mg/L)	0.0409	20	0.0009114	0.0003178	0	None	x^2	0.05	Inter
Beryllium (mg/L)	0.0025	18	n/a	n/a	100	n/a	n/a	0.3972	NP Inter(NDs)
Cadmium (mg/L)	0.00034	20	n/a	n/a	100	n/a	n/a	0.3585	NP Inter(NDs)
Chromium (mg/L)	0.0028	20	n/a	n/a	90	n/a	n/a	0.3585	NP Inter(NDs)
Cobalt (mg/L)	0.001339	20	8.0e-7	4.1e-7	10	None	x^2	0.05	Inter
Combined Radium 226 + 228 (pCi/L)	2.5	20	n/a	n/a	10	n/a	n/a	0.3585	NP Inter(normal...
Fluoride (mg/L)	0.032	22	n/a	n/a	100	n/a	n/a	0.3235	NP Inter(NDs)
Lead (mg/L)	0.0013	18	n/a	n/a	100	n/a	n/a	0.3972	NP Inter(NDs)
Lithium (mg/L)	0.005	19	n/a	n/a	78.95	n/a	n/a	0.3774	NP Inter(NDs)
Mercury (mg/L)	0.0002	18	n/a	n/a	88.89	n/a	n/a	0.3972	NP Inter(NDs)
Molybdenum (mg/L)	0.015	18	n/a	n/a	77.78	n/a	n/a	0.3972	NP Inter(NDs)
Selenium (mg/L)	0.0013	20	n/a	n/a	80	n/a	n/a	0.3585	NP Inter(NDs)
Thallium (mg/L)	0.0005	18	n/a	n/a	100	n/a	n/a	0.3972	NP Inter(NDs)

Tolerance Limit

Interwell Non-parametric



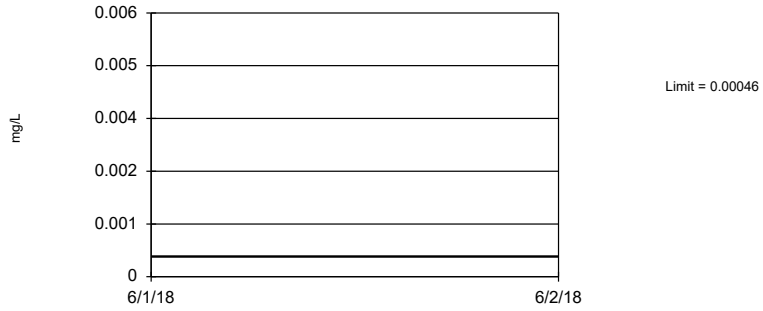
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 77.54% coverage at alpha=0.01; 84.57% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3972.

Constituent: Antimony Analysis Run 1/15/2019 9:07 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



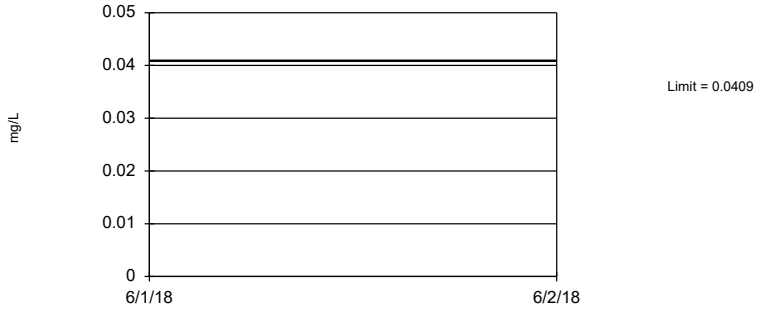
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 79.49% coverage at alpha=0.01; 86.13% coverage at alpha=0.05; 96.68% coverage at alpha=0.5. Report alpha = 0.3585.

Constituent: Arsenic Analysis Run 1/15/2019 9:07 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Parametric



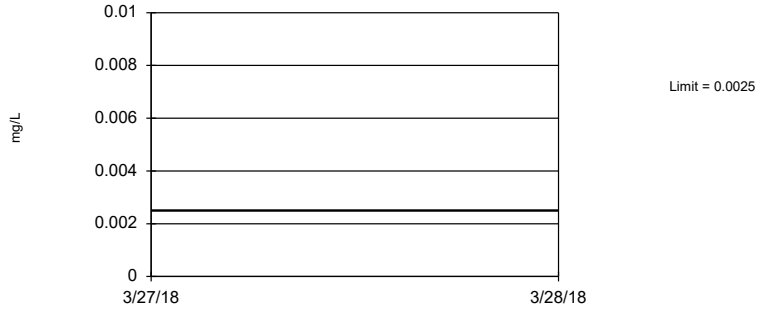
95% coverage. Background Data Summary (based on square transformation): Mean=0.0009114, Std. Dev.=0.0003178, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8999, critical = 0.868. Report alpha = 0.05.

Constituent: Barium Analysis Run 1/15/2019 9:07 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



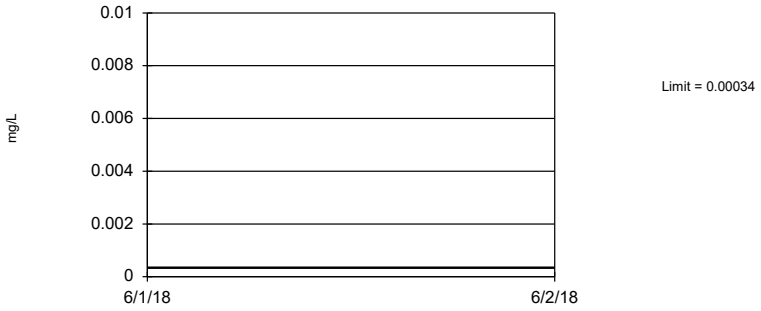
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 77.54% coverage at alpha=0.01; 84.57% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3972.

Constituent: Beryllium Analysis Run 1/15/2019 9:07 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



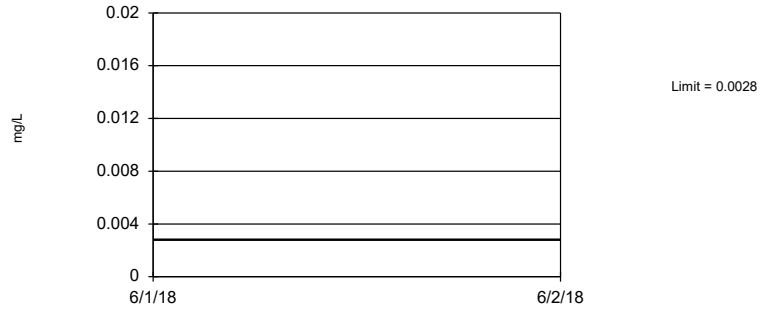
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 79.49% coverage at alpha=0.01; 86.13% coverage at alpha=0.05; 96.68% coverage at alpha=0.5. Report alpha = 0.3585.

Constituent: Cadmium Analysis Run 1/15/2019 9:07 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



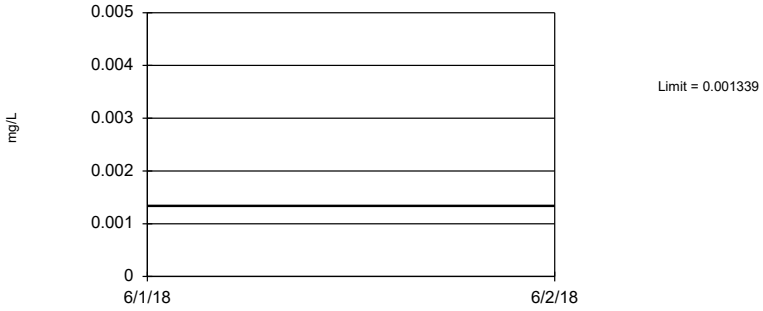
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 20 background values. 90% NDs. 79.49% coverage at alpha=0.01; 86.13% coverage at alpha=0.05; 96.68% coverage at alpha=0.5. Report alpha = 0.3585.

Constituent: Chromium Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Parametric



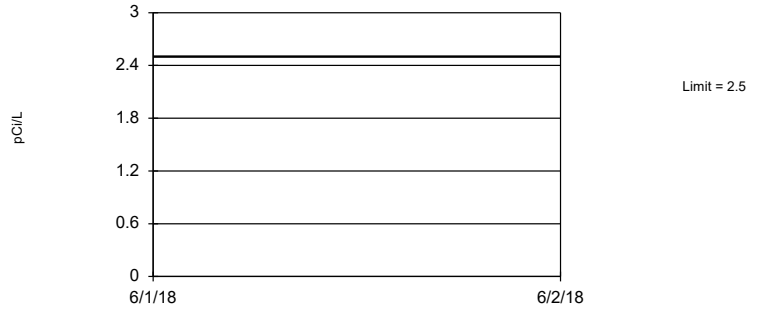
95% coverage. Background Data Summary (based on square transformation): Mean=8.0e-7, Std. Dev.=4.1e-7, n=20, 10% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8904, critical = 0.868. Report alpha = 0.05.

Constituent: Cobalt Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. 10% NDs. 79.49% coverage at alpha=0.01; 86.13% coverage at alpha=0.05; 96.68% coverage at alpha=0.5. Report alpha = 0.3585.

Constituent: Combined Radium 226 + 228 Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appe

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric

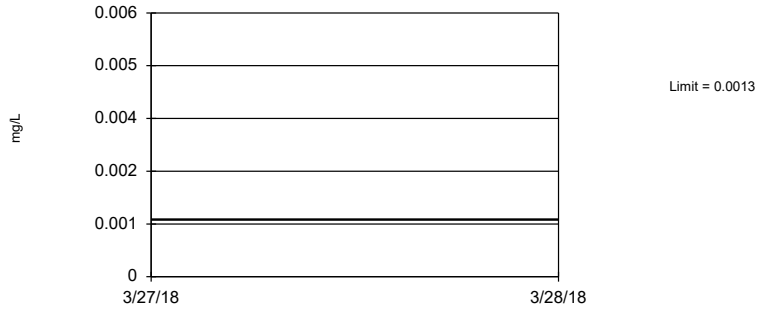
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 81.05% coverage at alpha=0.01; 87.3% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.3235.

Constituent: Fluoride Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 77.54% coverage at alpha=0.01; 84.57% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3972.

Constituent: Lead Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric

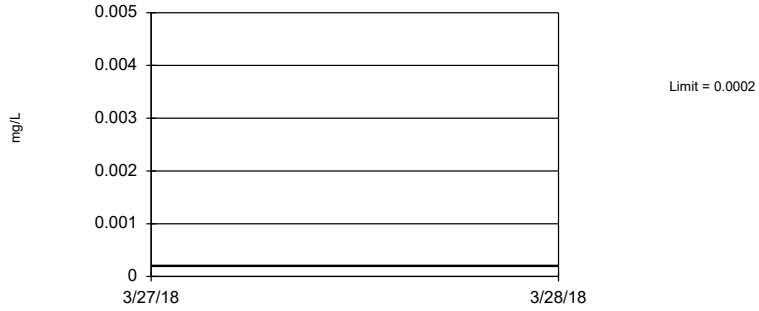
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 19 background values. 78.95% NDs. 78.32% coverage at alpha=0.01; 85.35% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3774.

Constituent: Lithium Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



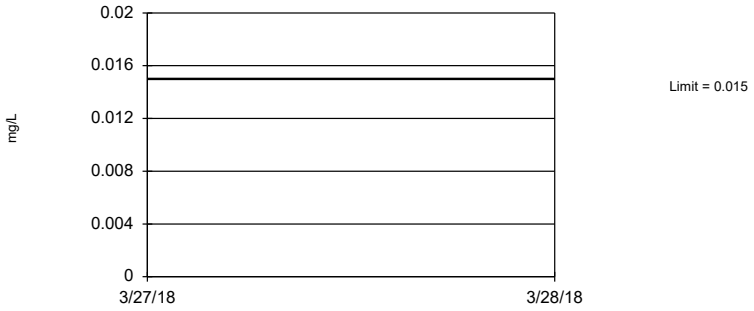
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 18 background values. 88.89% NDs. 77.54% coverage at alpha=0.01; 84.57% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3972.

Constituent: Mercury Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 18 background values. 77.78% NDs. 77.54% coverage at alpha=0.01; 84.57% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3972.

Constituent: Molybdenum Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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Tolerance Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. Limit is highest of 20 background values. 80% NDs. 79.49% coverage at alpha=0.01; 86.13% coverage at alpha=0.05; 96.68% coverage at alpha=0.5. Report alpha = 0.3585.

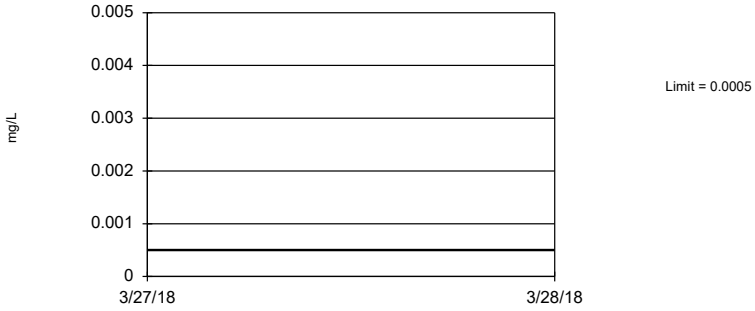
Constituent: Selenium Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 75%. All background values were censored; limit is most recent reporting limit. 77.54% coverage at alpha=0.01; 84.57% coverage at alpha=0.05; 96.29% coverage at alpha=0.5. Report alpha = 0.3972.

Constituent: Thallium Analysis Run 1/15/2019 9:08 AM View: Tolerance Limits - Appendix IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Confidence Intervals - Significant Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/15/2019, 9:18 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	**BAW-5**	**0.2086**	**0.1734**	**0.04**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**

Confidence Intervals - All Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/15/2019, 9:18 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	BAW-3	0.00125	0.00125	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	BAW-4	0.00125	0.00125	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	BAW-5	0.00125	0.00125	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	BAW-7	0.00125	0.00125	0.006	No	9	100	No	0.002	NP (NDs)
Arsenic (mg/L)	BAW-3	0.00065	0.00023	0.01	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	BAW-4	0.001	0.00065	0.01	No	10	30	No	0.011	NP (Cohens/xfrm)
Arsenic (mg/L)	BAW-5	0.003448	0.00133	0.01	No	10	0	No	0.01	Param.
Arsenic (mg/L)	BAW-7	0.00065	0.00023	0.01	No	10	80	No	0.011	NP (NDs)
Barium (mg/L)	BAW-3	0.0265	0.0155	2	No	10	0	No	0.01	Param.
Barium (mg/L)	BAW-4	0.01059	0.008229	2	No	10	0	No	0.01	Param.
Barium (mg/L)	BAW-5	0.04843	0.04057	2	No	10	0	No	0.01	Param.
Barium (mg/L)	BAW-7	0.01283	0.01117	2	No	10	0	sqrt(x)	0.01	Param.
Beryllium (mg/L)	BAW-3	0.00125	0.00125	0.004	No	9	100	No	0.002	NP (NDs)
Beryllium (mg/L)	BAW-4	0.00125	0.00125	0.004	No	9	100	No	0.002	NP (NDs)
Beryllium (mg/L)	BAW-5	0.00125	0.00125	0.004	No	9	100	No	0.002	NP (NDs)
Beryllium (mg/L)	BAW-7	0.00125	0.00125	0.004	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	BAW-3	0.0009818	0.0005242	0.005	No	10	10	No	0.01	Param.
Cadmium (mg/L)	BAW-4	0.00125	0.00017	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	BAW-5	0.00125	0.00017	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	BAW-7	0.00125	0.00017	0.005	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	BAW-3	0.00125	0.00055	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	BAW-4	0.0015	0.00055	0.1	No	10	70	No	0.011	NP (normality)
Chromium (mg/L)	BAW-5	0.0024	0.00055	0.1	No	10	70	No	0.011	NP (normality)
Chromium (mg/L)	BAW-7	0.00125	0.00055	0.1	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	BAW-3	0.006242	0.004938	0.006	No	10	0	No	0.01	Param.
Cobalt (mg/L)	BAW-4	0.001317	0.0009014	0.006	No	10	0	No	0.01	Param.
Cobalt (mg/L)	BAW-5	0.00125	0.0002	0.006	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	BAW-7	0.001035	0.0008069	0.006	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	BAW-3	2.5	-0.253	5	No	10	20	No	0.011	NP (Cohens/xfrm)
Combined Radium 226 + 228 (pCi/L)	BAW-4	2.5	-0.0607	5	No	10	30	No	0.011	NP (Cohens/xfrm)
Combined Radium 226 + 228 (pCi/L)	BAW-5	1.104	0.2866	5	No	10	10	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	BAW-7	2.5	0.0719	5	No	10	30	No	0.011	NP (Cohens/xfrm)
Fluoride (mg/L)	BAW-3	0.05	0.016	4	No	11	100	No	0.006	NP (NDs)
Fluoride (mg/L)	BAW-4	0.05	0.04	4	No	11	27.27	No	0.006	NP (normality)
Fluoride (mg/L)	BAW-5	0.07	0.05	4	No	11	0	No	0.006	NP (normality)
Fluoride (mg/L)	BAW-7	0.05	0.016	4	No	11	100	No	0.006	NP (NDs)
Lead (mg/L)	BAW-3	0.00065	0.00036	0.015	No	9	66.67	No	0.002	NP (normality)
Lead (mg/L)	BAW-4	0.00065	0.00039	0.015	No	9	77.78	No	0.002	NP (NDs)
Lead (mg/L)	BAW-5	0.00065	0.00065	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	BAW-7	0.00065	0.00065	0.015	No	9	100	No	0.002	NP (NDs)
Lithium (mg/L)	BAW-3	0.0025	0.002	0.04	No	10	80	No	0.011	NP (NDs)
Lithium (mg/L)	BAW-4	0.028	0.021	0.04	No	10	0	No	0.011	NP (normality)
Lithium (mg/L)	**BAW-5**	**0.2086**	**0.1734**	**0.04**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Lithium (mg/L)	BAW-7	0.0029	0.0025	0.04	No	10	70	No	0.011	NP (normality)
Mercury (mg/L)	BAW-3	0.00013	0.000084	0.002	No	9	77.78	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-4	0.00013	0.000073	0.002	No	9	77.78	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-5	0.0001	0.000074	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-7	0.0001	0.000071	0.002	No	9	88.89	No	0.002	NP (NDs)
Molybdenum (mg/L)	BAW-3	0.0075	0.0075	0.1	No	9	100	No	0.002	NP (NDs)
Molybdenum (mg/L)	BAW-4	0.0075	0.0075	0.1	No	9	100	No	0.002	NP (NDs)

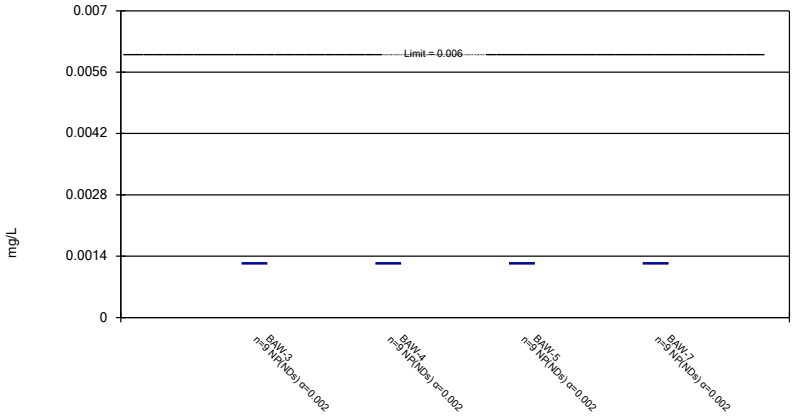
Confidence Intervals - All Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/15/2019, 9:18 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Molybdenum (mg/L)	BAW-5	0.0079	0.001	0.1	No	9	22.22	No	0.002	NP (normality)
Molybdenum (mg/L)	BAW-7	0.0075	0.0038	0.1	No	9	88.89	No	0.002	NP (NDs)
Selenium (mg/L)	BAW-3	0.001593	0.000317	0.05	No	10	40	No	0.01	Param.
Selenium (mg/L)	BAW-4	0.00065	0.00012	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	BAW-5	0.00065	0.00012	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	BAW-7	0.00065	0.00012	0.05	No	10	50	No	0.011	NP (Cohens/xfrm)
Thallium (mg/L)	BAW-3	0.00025	0.000095	0.002	No	9	88.89	No	0.002	NP (NDs)
Thallium (mg/L)	BAW-4	0.00025	0.00025	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	BAW-5	0.00025	0.00025	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	BAW-7	0.00025	0.00025	0.002	No	9	100	No	0.002	NP (NDs)

Non-Parametric Confidence Interval

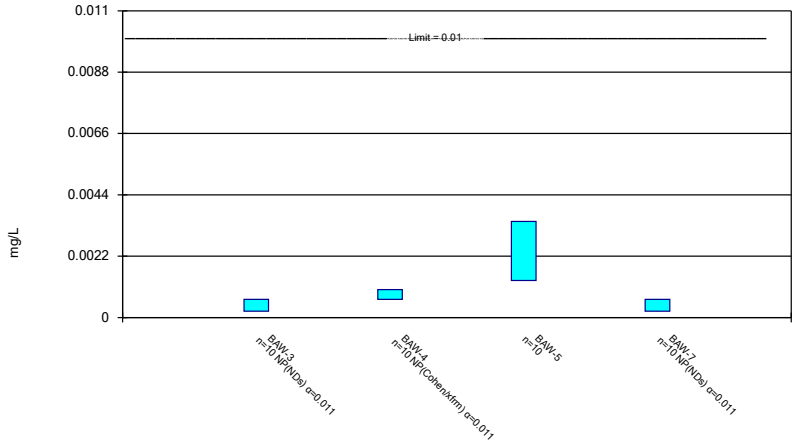
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

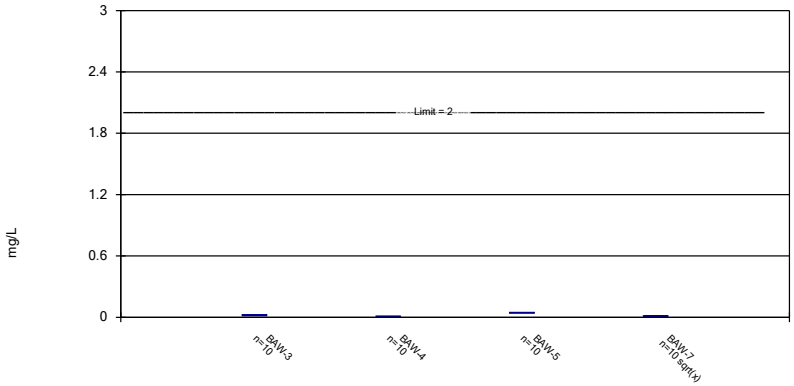
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric Confidence Interval

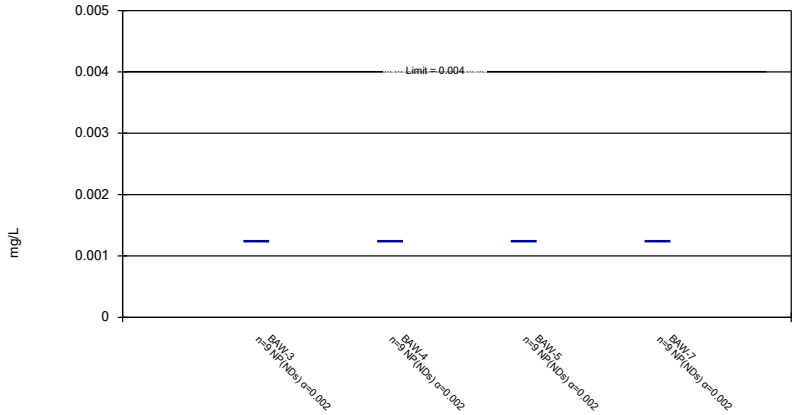
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

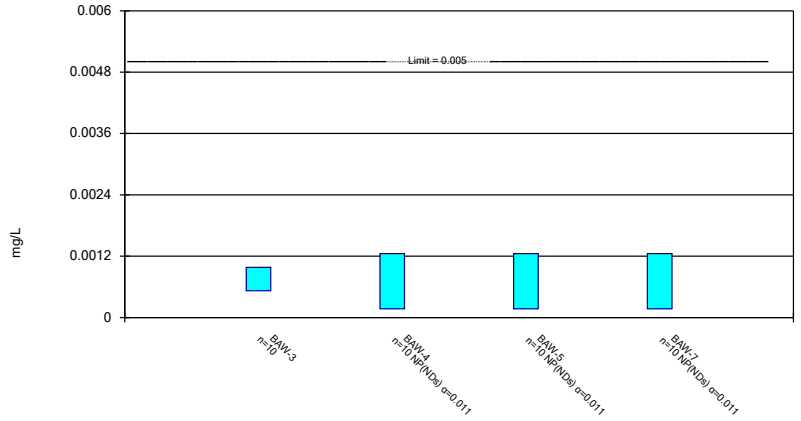
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

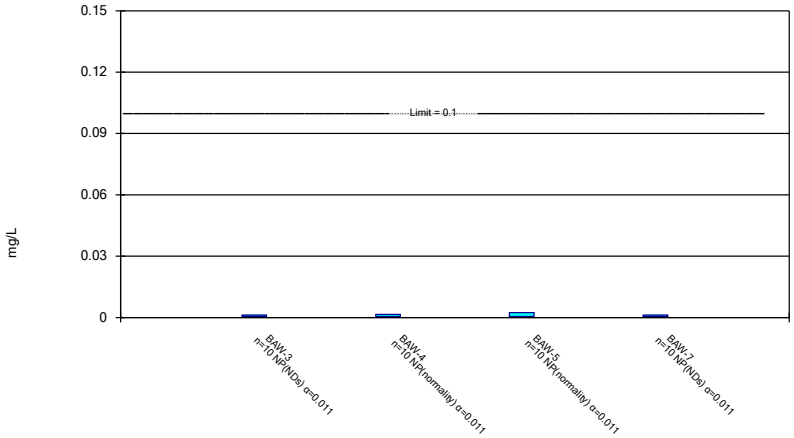
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

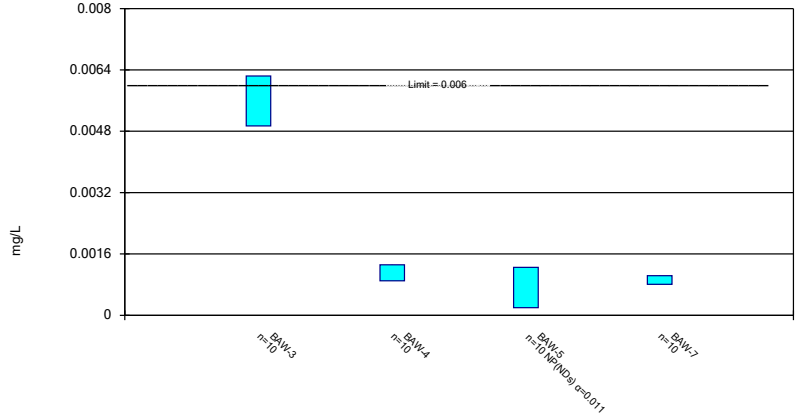
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

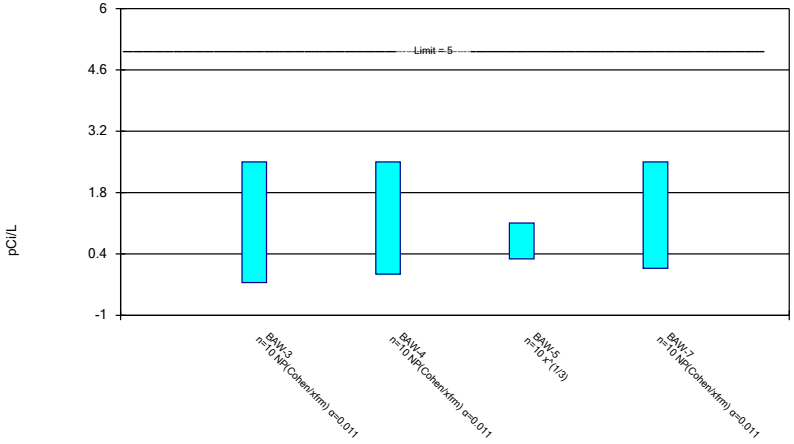
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

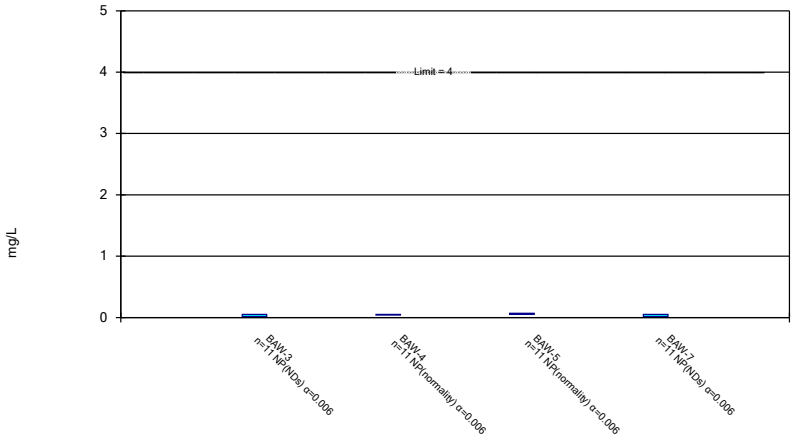
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Fluoride Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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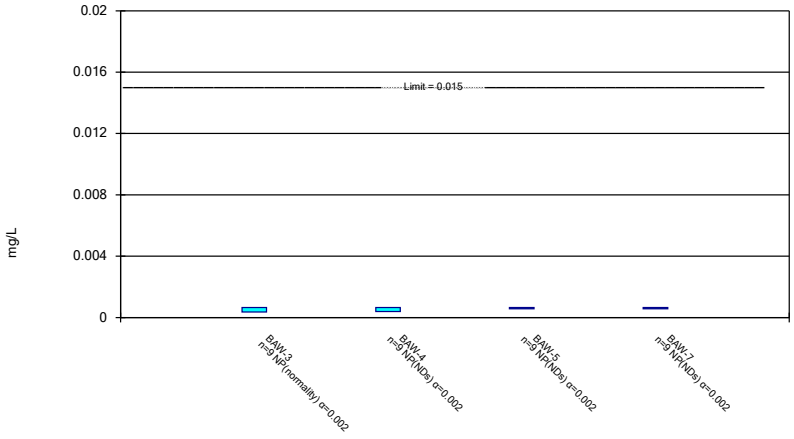
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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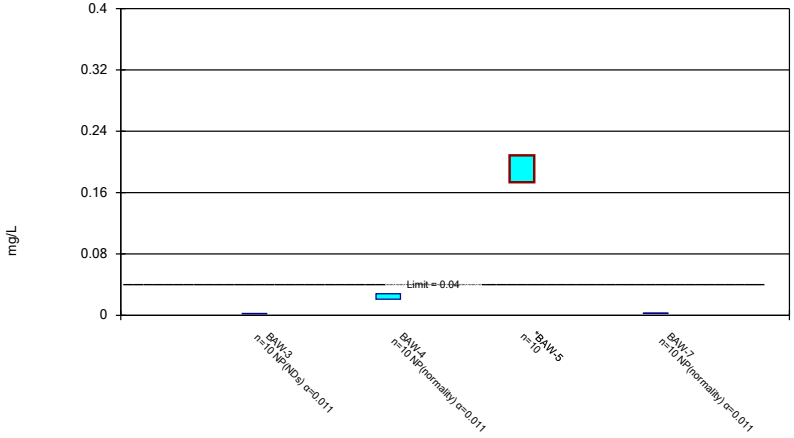
Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



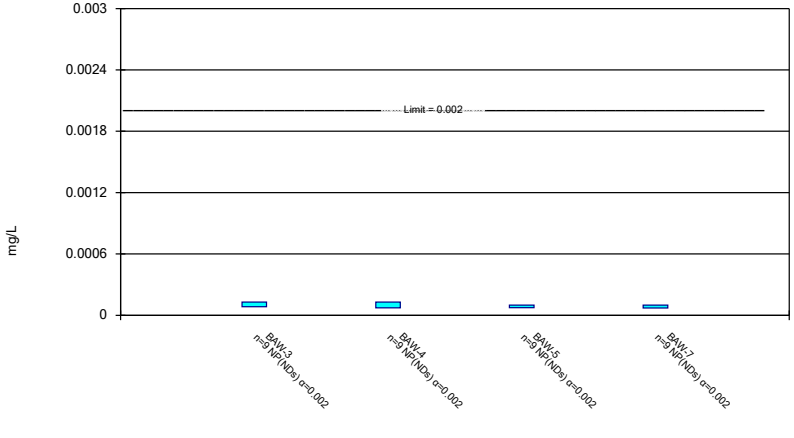
Constituent: Lithium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

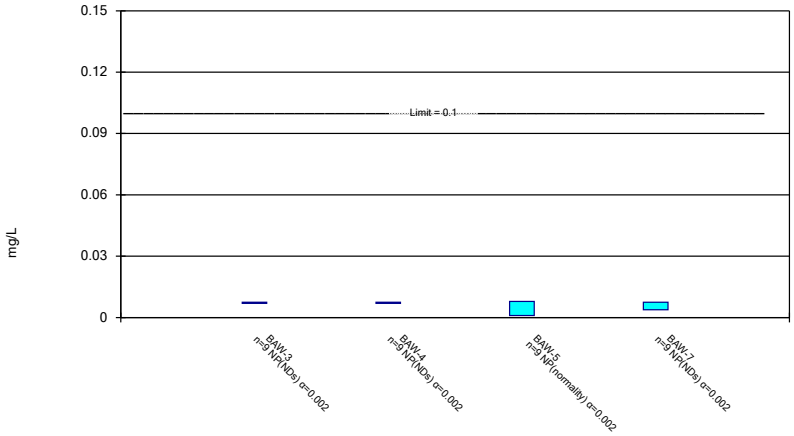


Constituent: Mercury Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

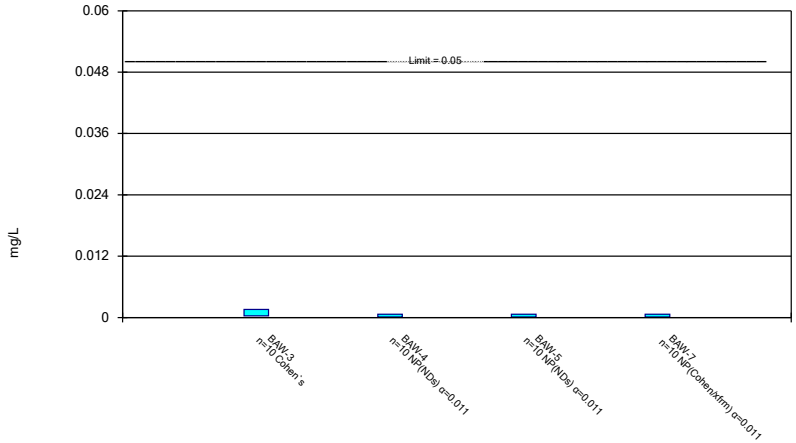
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

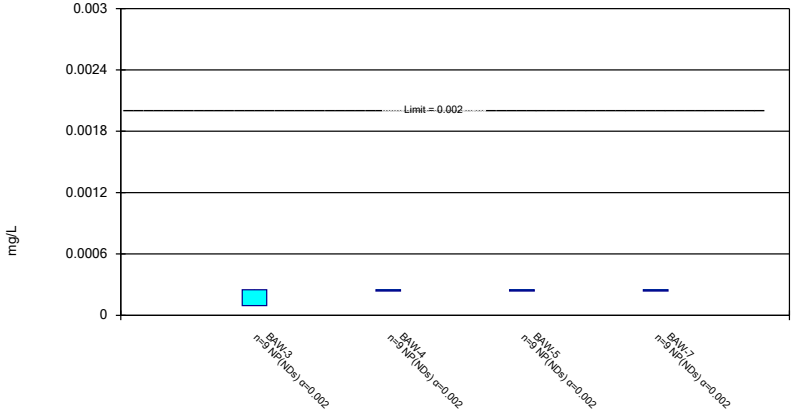
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 1/15/2019 9:17 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

2nd Semi-Annual

Prediction Limit - Significant Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/2/2019, 1:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**BAW-5**	**0.05**	**n/a**	**11/9/2018**	**0.13**	**Yes**	**24**	**100**	**n/a**	**0.003036**	**NP Inter (NDs) 1 of 2**
Calcium (mg/L)	**BAW-4**	**2.275**	**n/a**	**11/8/2018**	**3**	**Yes**	**24**	**4.167**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**BAW-5**	**2.275**	**n/a**	**11/9/2018**	**14**	**Yes**	**24**	**4.167**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	**BAW-3**	**7.02**	**n/a**	**11/8/2018**	**8.5**	**Yes**	**24**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	**BAW-5**	**7.02**	**n/a**	**11/9/2018**	**9.7**	**Yes**	**24**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
pH (SU)	**BAW-5**	**5.529**	**4.519**	**11/9/2018**	**6.27**	**Yes**	**24**	**0**	**No**	**0.001253**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**BAW-4**	**62.05**	**n/a**	**11/8/2018**	**170**	**Yes**	**24**	**4.167**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**

Prediction Limit - All Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/2/2019, 1:00 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	BAW-3	0.05	n/a	11/8/2018	0.05ND	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
Boron (mg/L)	BAW-4	0.05	n/a	11/8/2018	0.024	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
Boron (mg/L)	**BAW-5**	**0.05**	**n/a**	**11/9/2018**	**0.13**	**Yes**	**24**	**100**	**n/a**	**0.003036**	**NP Inter (NDs) 1 of 2**
Boron (mg/L)	BAW-7	0.05	n/a	11/9/2018	0.05ND	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
Calcium (mg/L)	BAW-3	2.275	n/a	11/8/2018	0.84	No	24	4.167	x^(1/3)	0.002505	Param Inter 1 of 2
Calcium (mg/L)	**BAW-4**	**2.275**	**n/a**	**11/8/2018**	**3**	**Yes**	**24**	**4.167**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	**BAW-5**	**2.275**	**n/a**	**11/9/2018**	**14**	**Yes**	**24**	**4.167**	**x^(1/3)**	**0.002505**	**Param Inter 1 of 2**
Calcium (mg/L)	BAW-7	2.275	n/a	11/9/2018	0.59	No	24	4.167	x^(1/3)	0.002505	Param Inter 1 of 2
Chloride (mg/L)	**BAW-3**	**7.02**	**n/a**	**11/8/2018**	**8.5**	**Yes**	**24**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	BAW-4	7.02	n/a	11/8/2018	6.6	No	24	0	No	0.002505	Param Inter 1 of 2
Chloride (mg/L)	**BAW-5**	**7.02**	**n/a**	**11/9/2018**	**9.7**	**Yes**	**24**	**0**	**No**	**0.002505**	**Param Inter 1 of 2**
Chloride (mg/L)	BAW-7	7.02	n/a	11/9/2018	4.9	No	24	0	No	0.002505	Param Inter 1 of 2
Fluoride (mg/L)	BAW-3	0.1	n/a	11/8/2018	0.1ND	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	BAW-4	0.1	n/a	11/8/2018	0.05	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	BAW-5	0.1	n/a	11/9/2018	0.06	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	BAW-7	0.1	n/a	11/9/2018	0.1ND	No	24	100	n/a	0.003036	NP Inter (NDs) 1 of 2
pH (SU)	BAW-3	5.529	4.519	11/8/2018	4.83	No	24	0	No	0.001253	Param Inter 1 of 2
pH (SU)	BAW-4	5.529	4.519	11/8/2018	5.29	No	24	0	No	0.001253	Param Inter 1 of 2
pH (SU)	**BAW-5**	**5.529**	**4.519**	**11/9/2018**	**6.27**	**Yes**	**24**	**0**	**No**	**0.001253**	**Param Inter 1 of 2**
pH (SU)	BAW-7	5.529	4.519	11/9/2018	4.92	No	24	0	No	0.001253	Param Inter 1 of 2
Sulfate (mg/L)	BAW-3	5	n/a	11/8/2018	1.6	No	24	79.17	n/a	0.003036	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	BAW-4	5	n/a	11/8/2018	2.7	No	24	79.17	n/a	0.003036	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	BAW-5	5	n/a	11/9/2018	2.3	No	24	79.17	n/a	0.003036	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	BAW-7	5	n/a	11/9/2018	5ND	No	24	79.17	n/a	0.003036	NP Inter (NDs) 1 of 2
Total Dissolved Solids (mg/L)	BAW-3	62.05	n/a	11/8/2018	34	No	24	4.167	sqrt(x)	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**BAW-4**	**62.05**	**n/a**	**11/8/2018**	**170**	**Yes**	**24**	**4.167**	**sqrt(x)**	**0.002505**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	BAW-5	62.05	n/a	11/9/2018	38	No	24	4.167	sqrt(x)	0.002505	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	BAW-7	62.05	n/a	11/9/2018	20	No	24	4.167	sqrt(x)	0.002505	Param Inter 1 of 2

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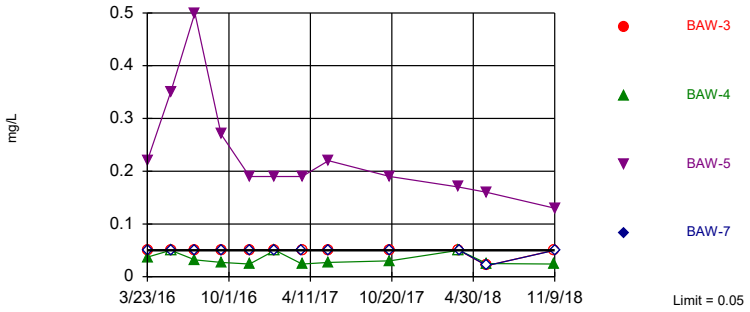
Hollow symbols indicate censored values.

Exceeds Limit: BAW-5

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 24) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.01808. Individual comparison alpha = 0.003036 (1 of 2). Comparing 4 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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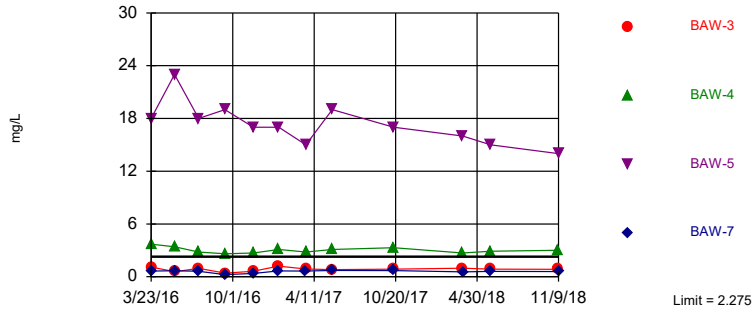
Exceeds Limit: BAW-4, BAW-5

Prediction Limit

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=0.9884, Std. Dev.=0.1772, n=24, 4.167% NDs. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8882, critical = 0.884. Kappa = 1.845 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 4 points to limit.

Constituent: Calcium Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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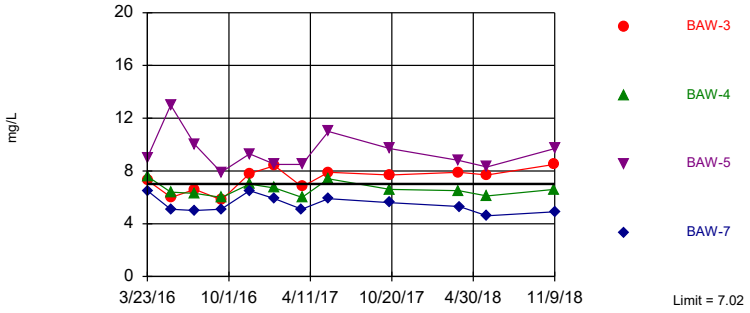
Exceeds Limit: BAW-3, BAW-5

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.554, Std. Dev.=0.7945, n=24. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9668, critical = 0.884. Kappa = 1.845 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 4 points to limit.

Constituent: Chloride Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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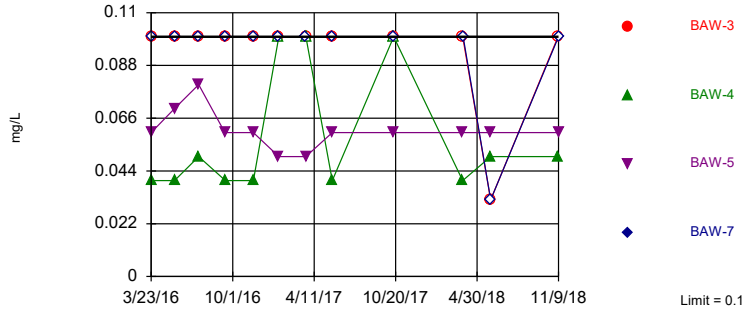
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 24) were censored; limit is most recent reporting limit. Annual per-constituent alpha = 0.01808. Individual comparison alpha = 0.003036 (1 of 2). Comparing 4 points to limit. Seasonality was not detected with 95% confidence.

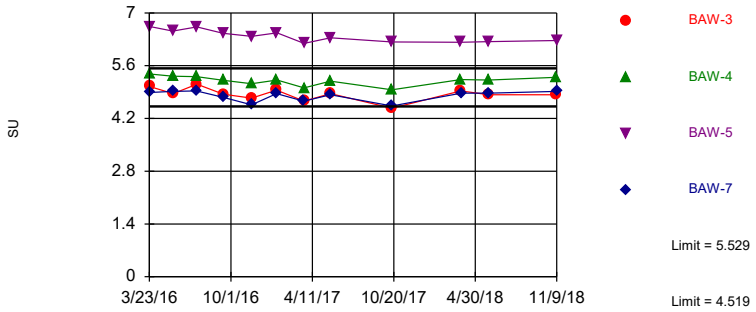
Constituent: Fluoride Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Exceeds Limits: BAW-5

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=5.024, Std. Dev.=0.2738, n=24. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.944, critical = 0.884. Kappa = 1.845 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001253. Comparing 4 points to limit.

Constituent: pH Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

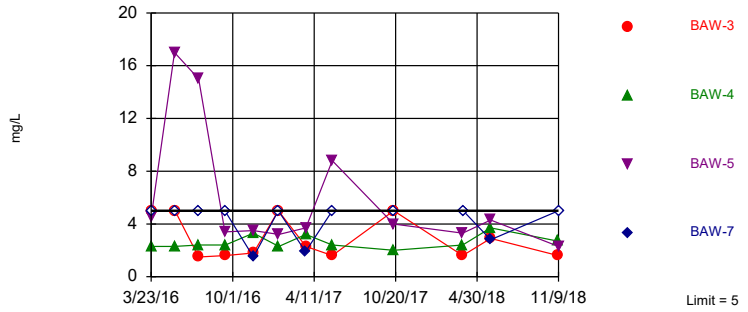
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 24 background values. 79.17% NDs. Annual per-constituent alpha = 0.01808. Individual comparison alpha = 0.003036 (1 of 2). Comparing 4 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Sulfate Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

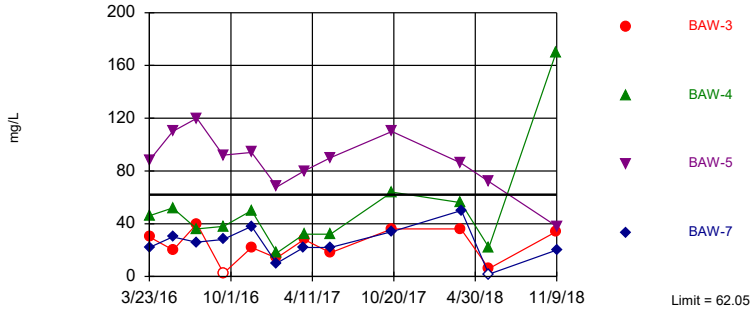
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Hollow symbols indicate censored values.

Exceeds Limit: BAW-4

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=4.712, Std. Dev.=1.716, n=24, 4.167% NDs. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.931, critical = 0.884. Kappa = 1.845 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Comparing 4 points to limit.

Constituent: Total Dissolved Solids Analysis Run 1/2/2019 12:58 PM View: Interwell PLs

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Trend Test - Significant Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/2/2019, 1:06 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**BAW-5**	**-0.0558**	**-45**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**BAW-2 (bg)**	**-0.5725**	**-31**	**-25**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**BAW-5**	**-1.777**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	**BAW-2 (bg)**	**-0.5393**	**-29**	**-25**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	**BAW-5**	**-0.1667**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 1/2/2019, 1:06 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	BAW-1 (bg)	0	-9	-38	No	12	100	n/a	n/a	0.01	NP
Boron (mg/L)	BAW-2 (bg)	0	0	25	No	9	100	n/a	n/a	0.01	NP
Boron (mg/L)	**BAW-5**	**-0.0558**	**-45**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	BAW-2A (bg)	0	NaN	NaN	No	3	100	n/a	n/a	NaN	NP
Calcium (mg/L)	BAW-1 (bg)	0.1168	22	38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	**BAW-2 (bg)**	**-0.5725**	**-31**	**-25**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	BAW-4	-0.06353	-7	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**BAW-5**	**-1.777**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	BAW-2A (bg)	-3.537	NaN	NaN	No	3	0	n/a	n/a	NaN	NP
Chloride (mg/L)	BAW-1 (bg)	-0.1042	-10	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	BAW-2 (bg)	1.001	18	25	No	9	0	n/a	n/a	0.01	NP
Chloride (mg/L)	BAW-3	0.753	30	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	BAW-5	-0.1567	-8	-38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	BAW-2A (bg)	0.8075	NaN	NaN	No	3	0	n/a	n/a	NaN	NP
pH (SU)	BAW-1 (bg)	-0.1107	-24	-38	No	12	0	n/a	n/a	0.01	NP
pH (SU)	**BAW-2 (bg)**	**-0.5393**	**-29**	**-25**	**Yes**	**9**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	**BAW-5**	**-0.1667**	**-40**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	BAW-2A (bg)	-0.7591	NaN	NaN	No	3	0	n/a	n/a	NaN	NP
Total Dissolved Solids (mg/L)	BAW-1 (bg)	-3.785	-22	-38	No	12	8.333	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	BAW-2 (bg)	-5.236	-4	-25	No	9	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	BAW-4	3.677	5	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	BAW-2A (bg)	103.4	NaN	NaN	No	3	0	n/a	n/a	NaN	NP

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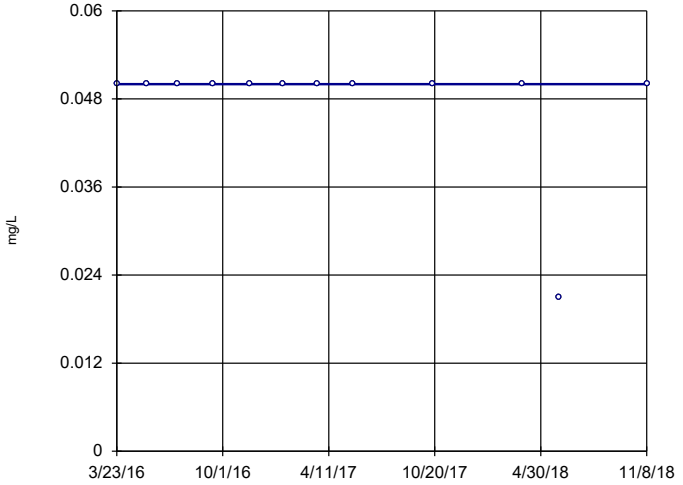
Sen's Slope Estimator

BAW-1 (bg)



n = 12

Slope = 0 units per year.

Mann-Kendall statistic = -9
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 1/2/2019 1:04 PM View: Trend Tests
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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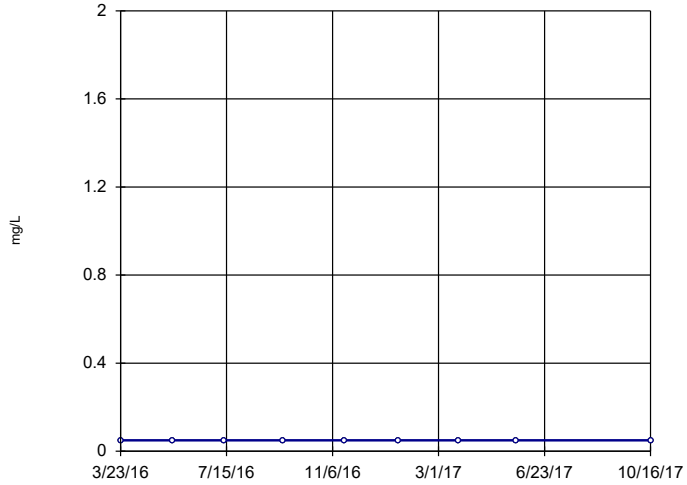
Hollow symbols indicate censored values.

Sen's Slope Estimator

BAW-2 (bg)



n = 9

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 25

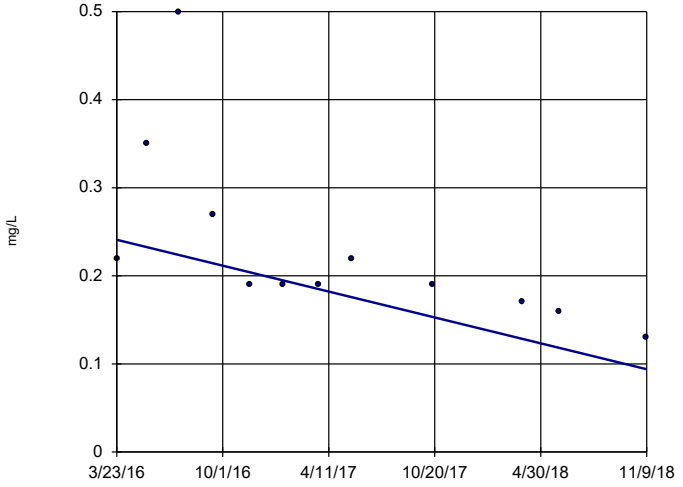
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 1/2/2019 1:04 PM View: Trend Tests
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

BAW-5



n = 12

Slope = -0.0558 units per year.

Mann-Kendall statistic = -45
critical = -38

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 1/2/2019 1:04 PM View: Trend Tests
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

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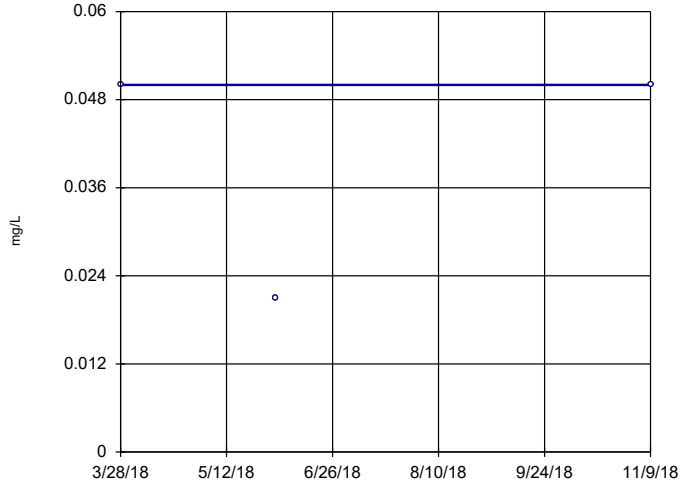
Hollow symbols indicate censored values.

Sen's Slope Estimator

BAW-2A (bg)



n = 3

Slope = 0 units per year.

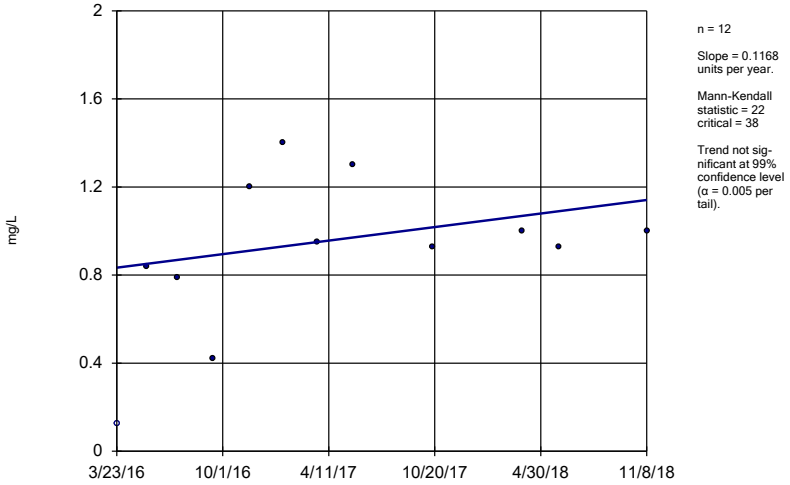
Minimum n for Mann-Kendall is 4.

Constituent: Boron Analysis Run 1/2/2019 1:04 PM View: Trend Tests
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Hollow symbols indicate censored values.

Sen's Slope Estimator

BAW-1 (bg)



n = 12

Slope = 0.1168 units per year.

Mann-Kendall statistic = 22
critical = 38

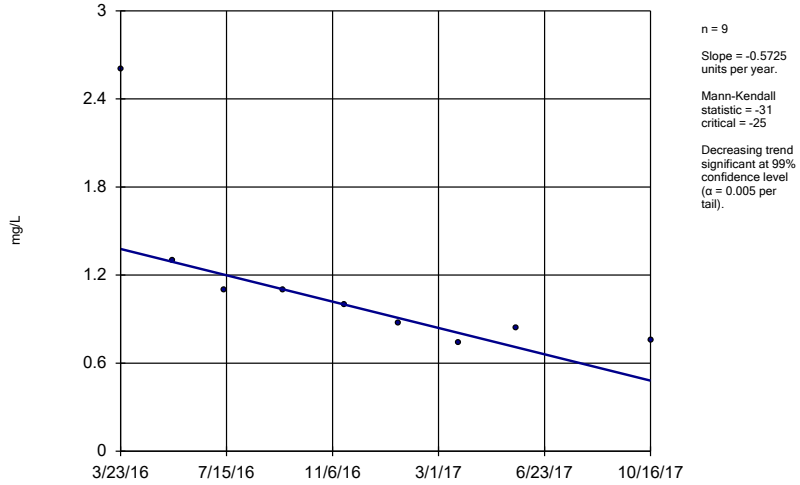
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2 (bg)



n = 9

Slope = -0.5725 units per year.

Mann-Kendall statistic = -31
critical = -25

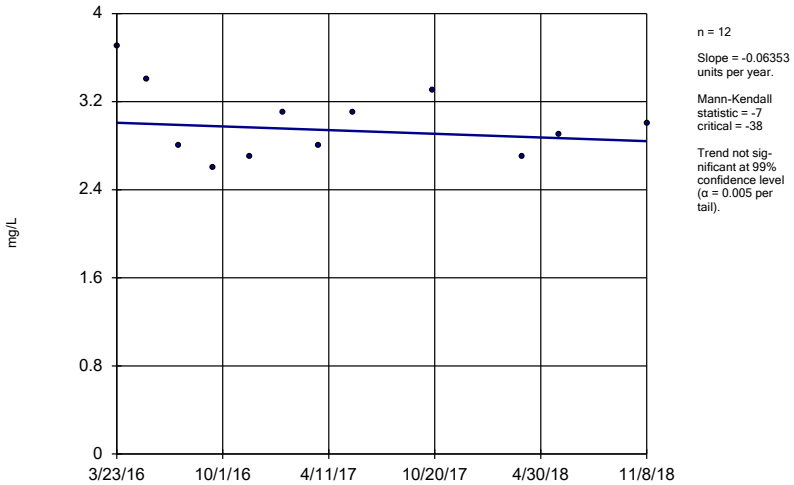
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-4



n = 12

Slope = -0.06353 units per year.

Mann-Kendall statistic = -7
critical = -38

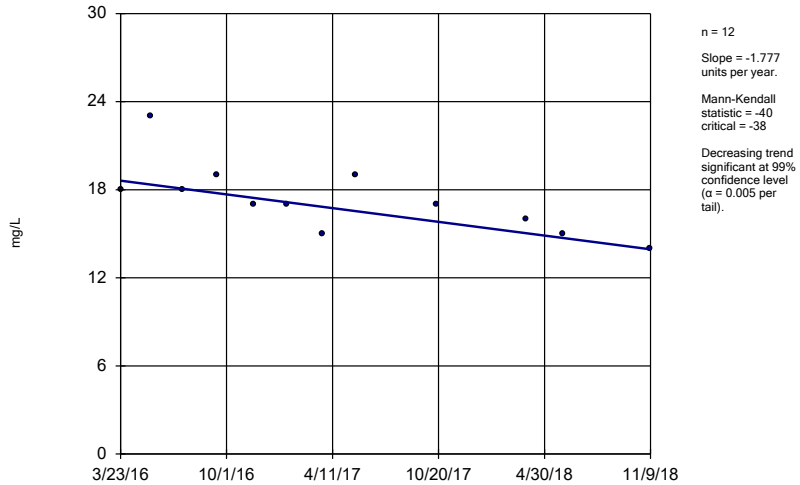
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-5



n = 12

Slope = -1.777 units per year.

Mann-Kendall statistic = -40
critical = -38

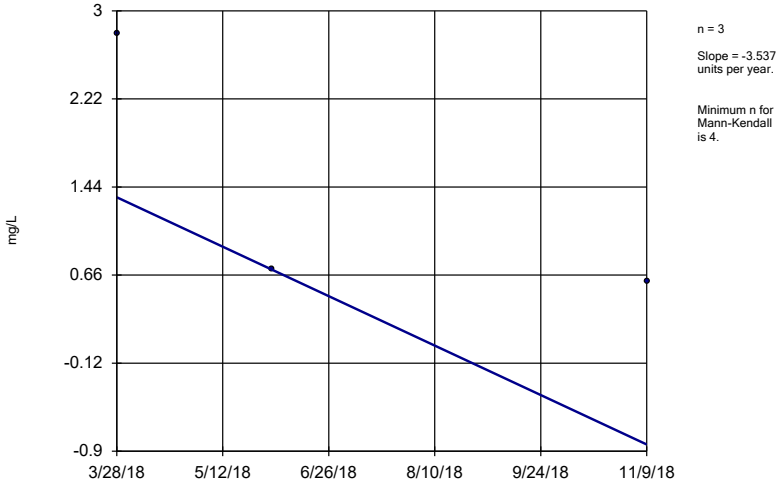
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2A (bg)



n = 3

Slope = -3.537 units per year.

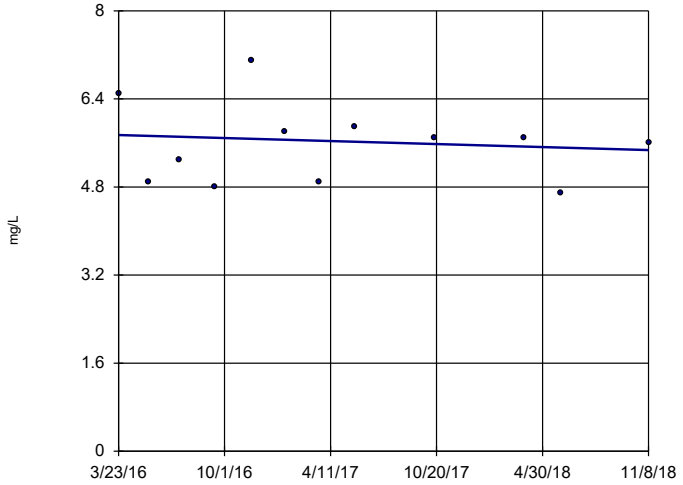
Minimum n for Mann-Kendall is 4.

Constituent: Calcium Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-1 (bg)



n = 12

Slope = -0.1042 units per year.

Mann-Kendall statistic = -10 critical = -38

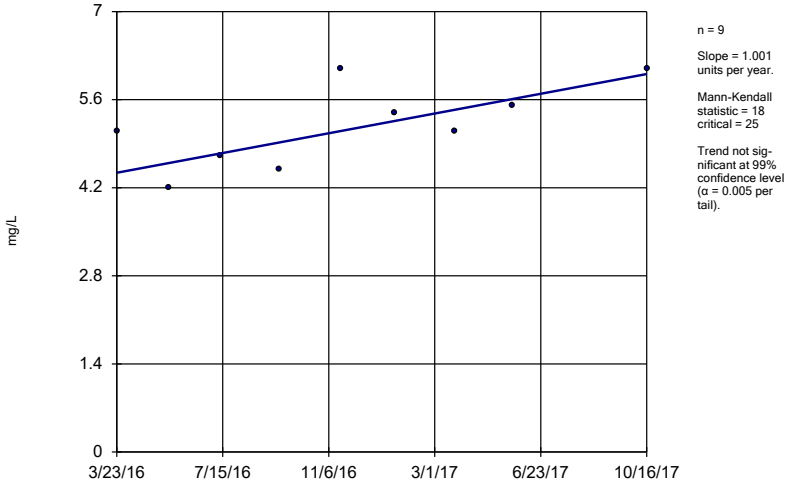
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2 (bg)



n = 9

Slope = 1.001 units per year.

Mann-Kendall statistic = 18 critical = 25

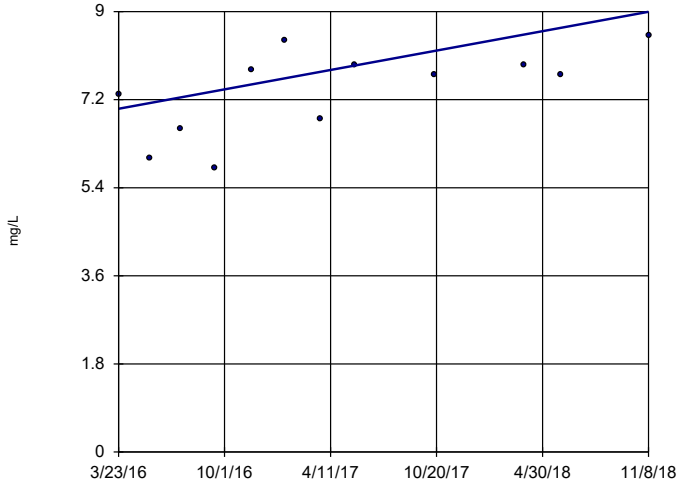
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-3



n = 12

Slope = 0.753 units per year.

Mann-Kendall statistic = 30 critical = 38

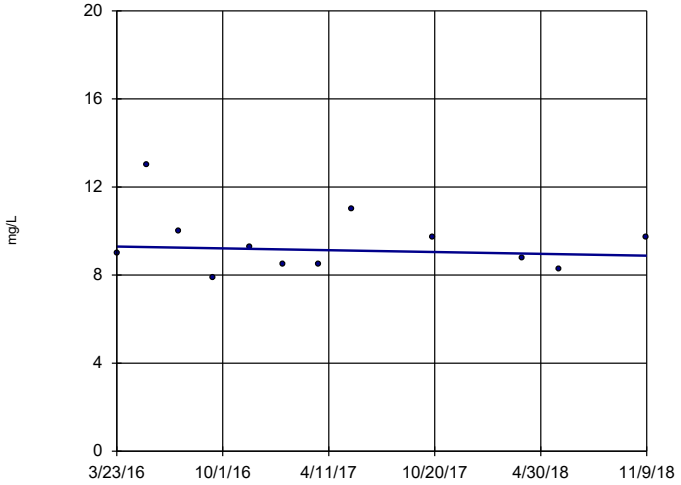
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-5



n = 12

Slope = -0.1567 units per year.

Mann-Kendall statistic = -8
critical = -38

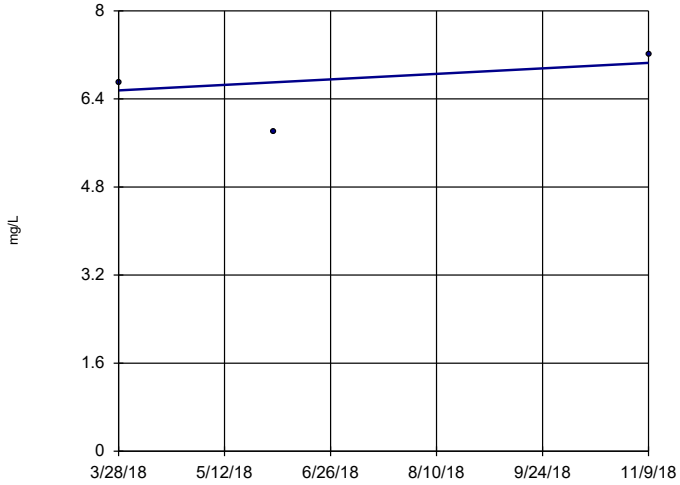
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2A (bg)



n = 3

Slope = 0.8075 units per year.

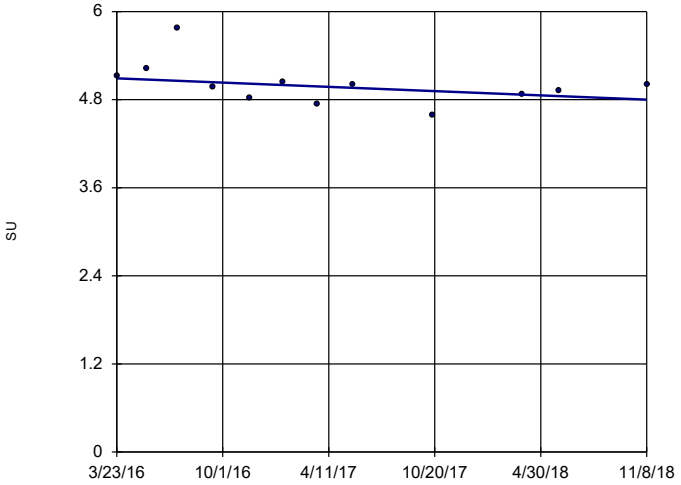
Minimum n for Mann-Kendall is 4.

Constituent: Chloride Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-1 (bg)



n = 12

Slope = -0.1107 units per year.

Mann-Kendall statistic = -24
critical = -38

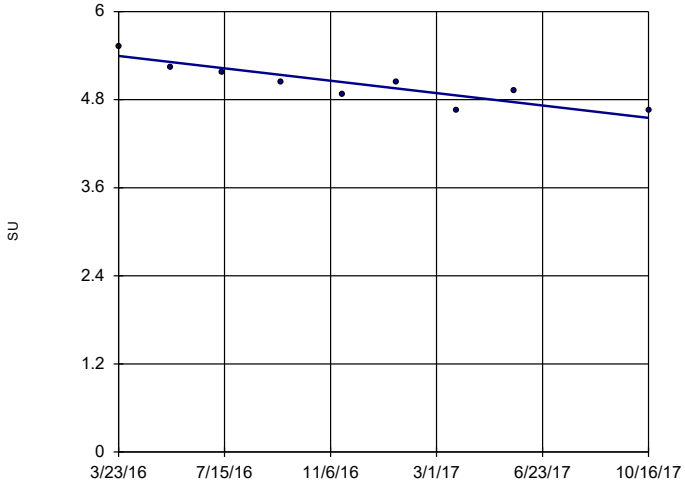
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2 (bg)



n = 9

Slope = -0.5393 units per year.

Mann-Kendall statistic = -29
critical = -25

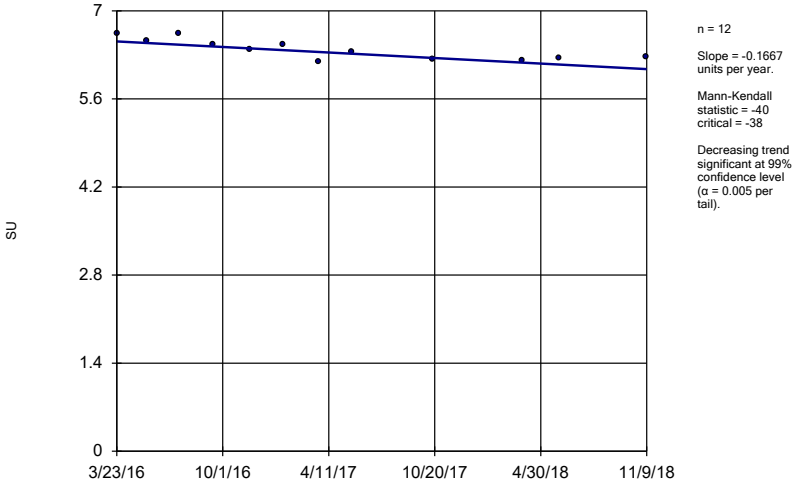
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-5



n = 12

Slope = -0.1667 units per year.

Mann-Kendall statistic = -40 critical = -38

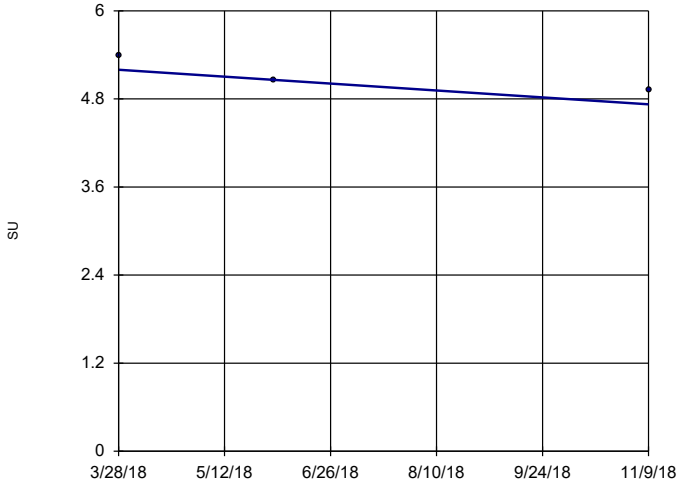
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2A (bg)



n = 3

Slope = -0.7591 units per year.

Minimum n for Mann-Kendall is 4.

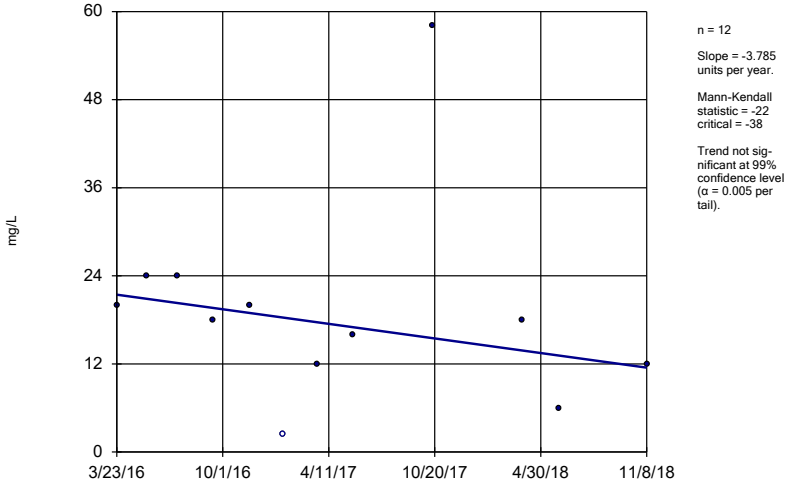
Constituent: pH Analysis Run 1/2/2019 1:04 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Hollow symbols indicate censored values.

Sen's Slope Estimator

BAW-1 (bg)



n = 12

Slope = -3.785 units per year.

Mann-Kendall statistic = -22 critical = -38

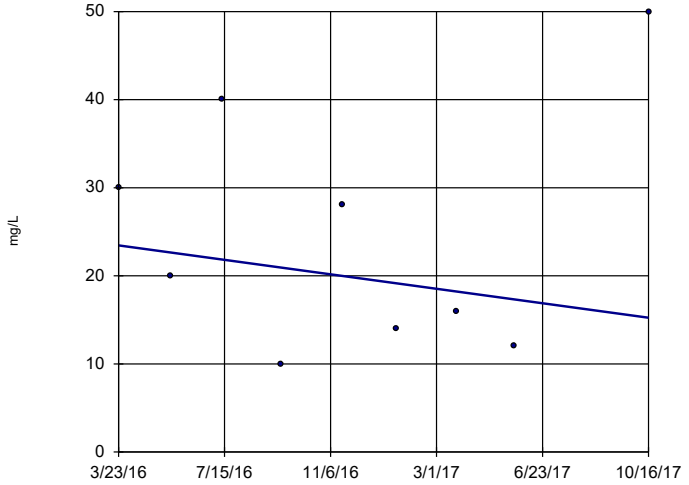
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 1/2/2019 1:05 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-2 (bg)



n = 9

Slope = -5.236 units per year.

Mann-Kendall statistic = -4 critical = -25

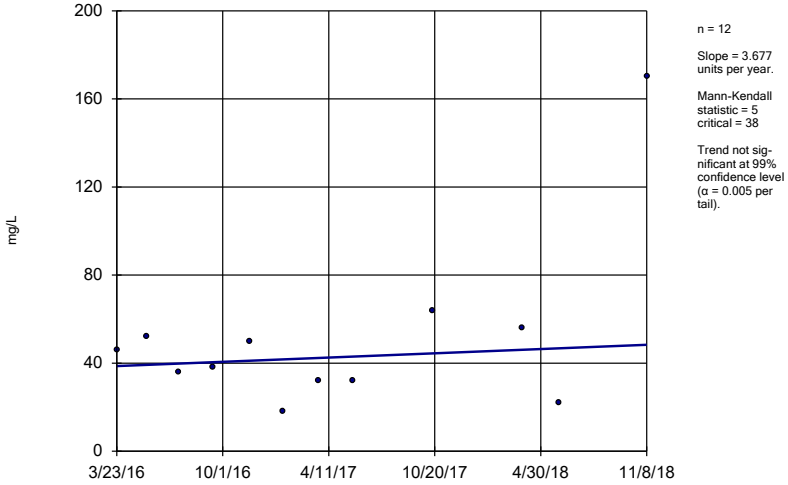
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 1/2/2019 1:05 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sen's Slope Estimator

BAW-4



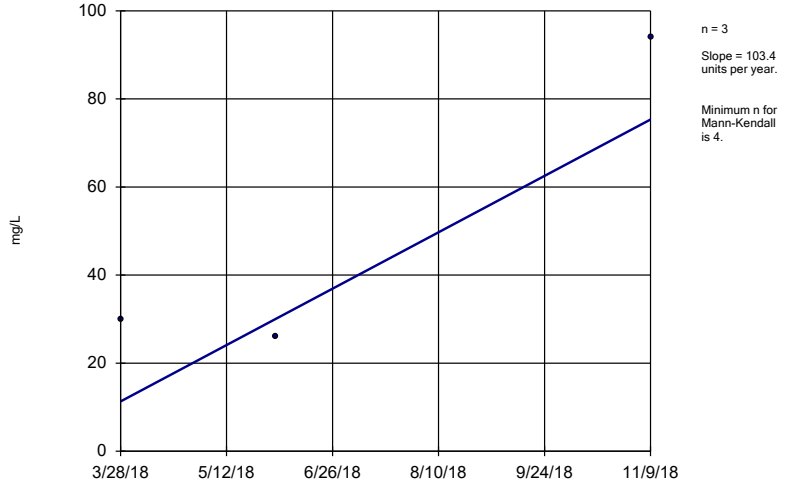
Constituent: Total Dissolved Solids Analysis Run 1/2/2019 1:05 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.09 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

BAW-2A (bg)

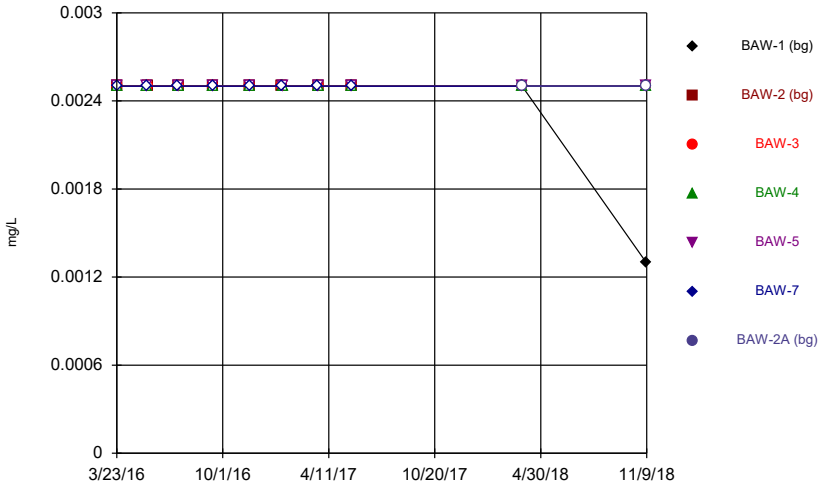


Constituent: Total Dissolved Solids Analysis Run 1/2/2019 1:05 PM View: Trend Tests

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

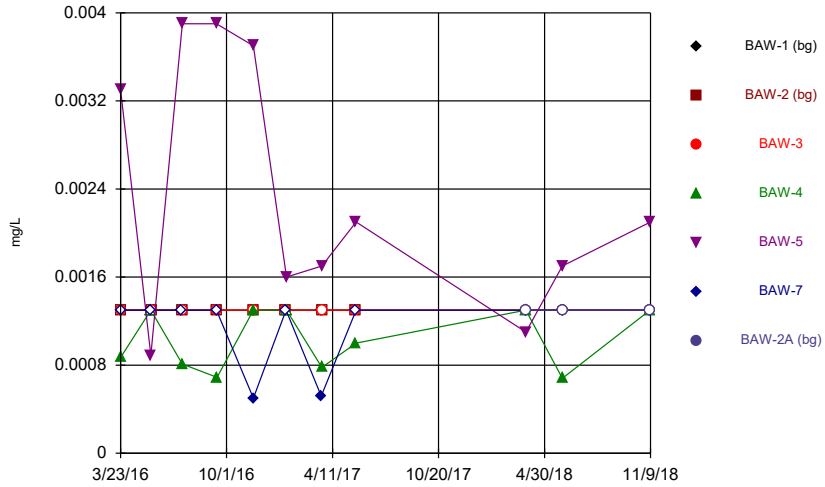
Time Series



Constituent: Antimony Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

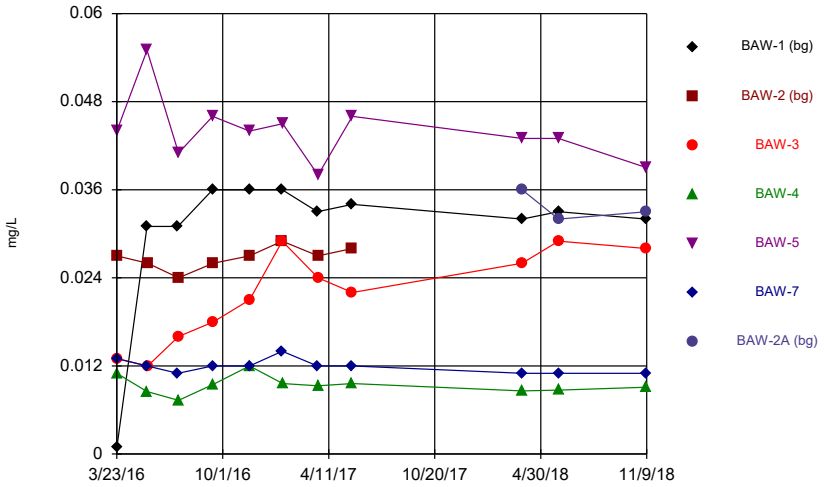
Time Series



Constituent: Arsenic Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

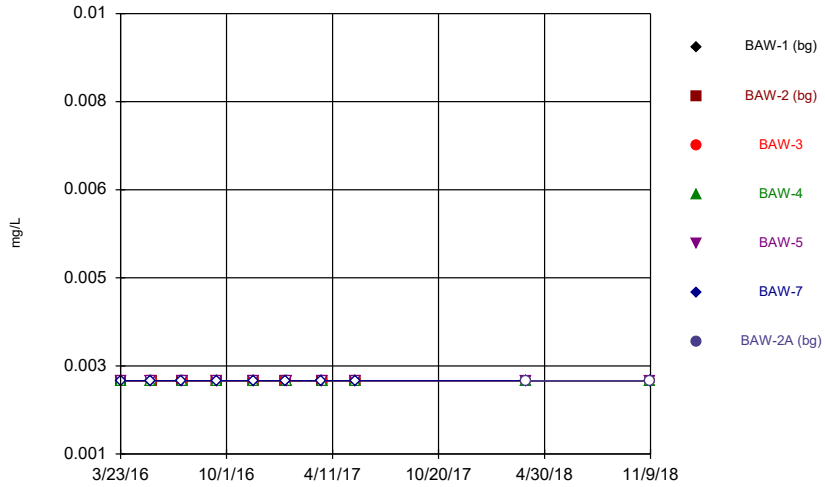
Time Series



Constituent: Barium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

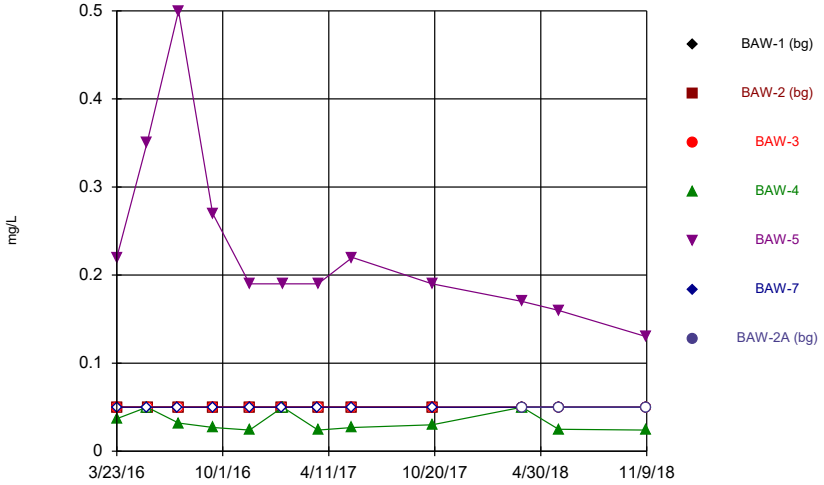
Time Series



Constituent: Beryllium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

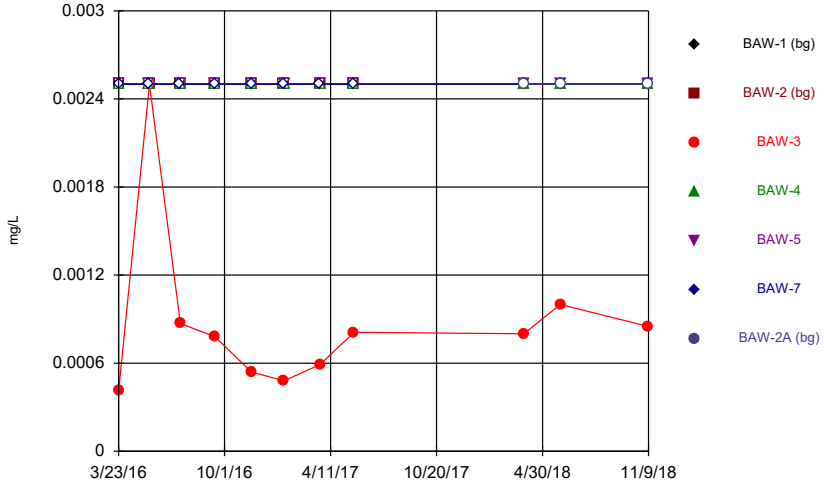
Time Series



Constituent: Boron Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

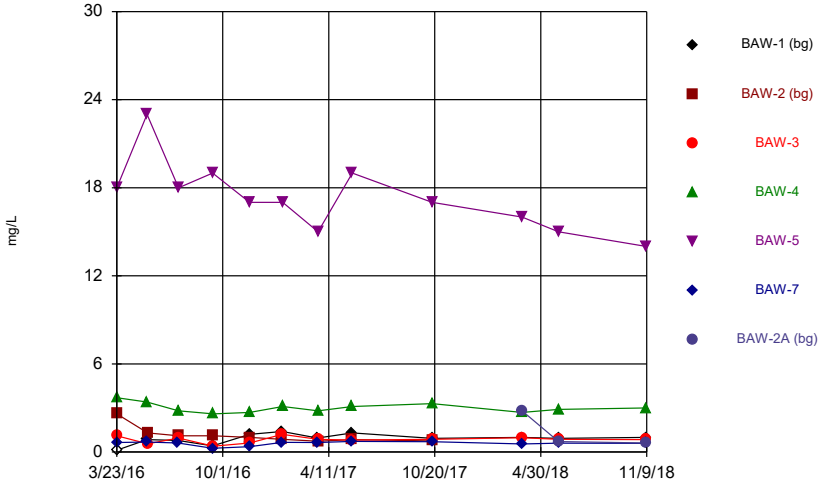
Time Series



Constituent: Cadmium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

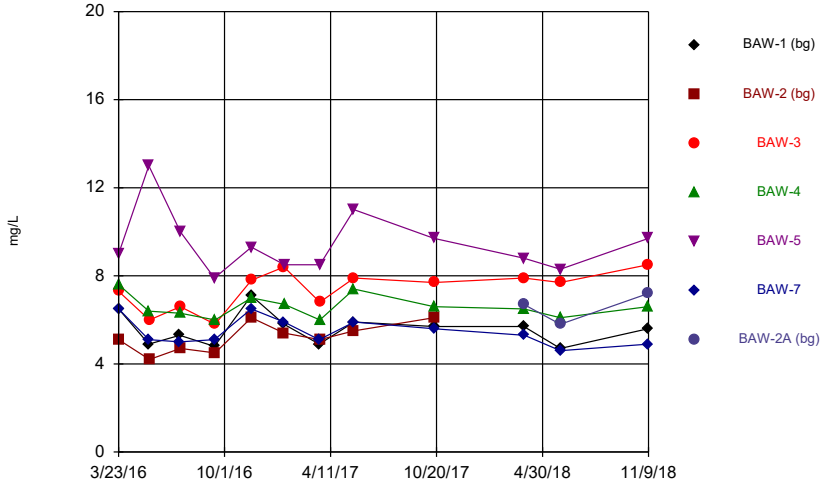
Time Series



Constituent: Calcium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

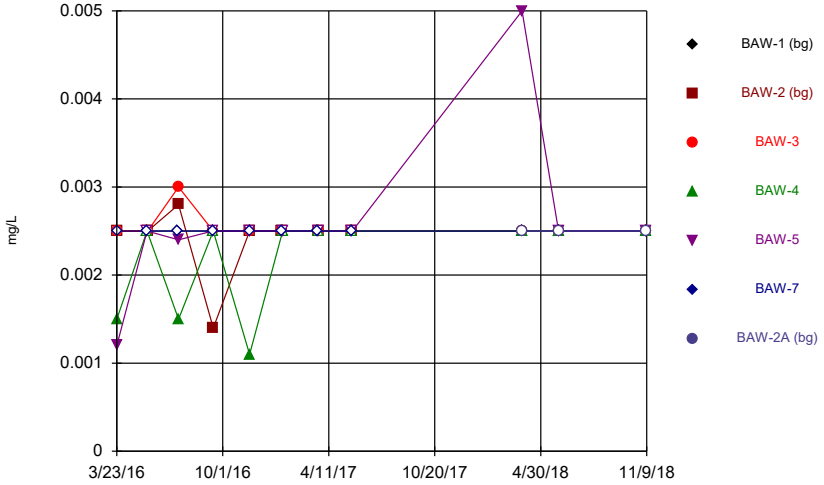
Time Series



Constituent: Chloride Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

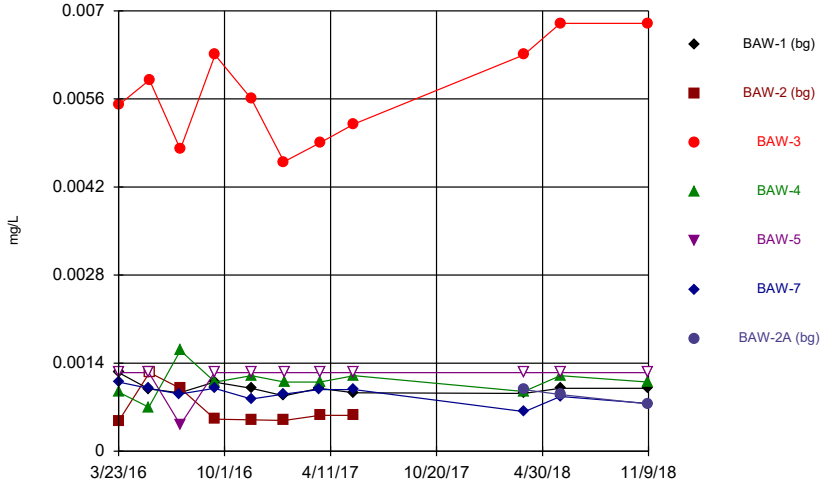
Time Series



Constituent: Chromium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

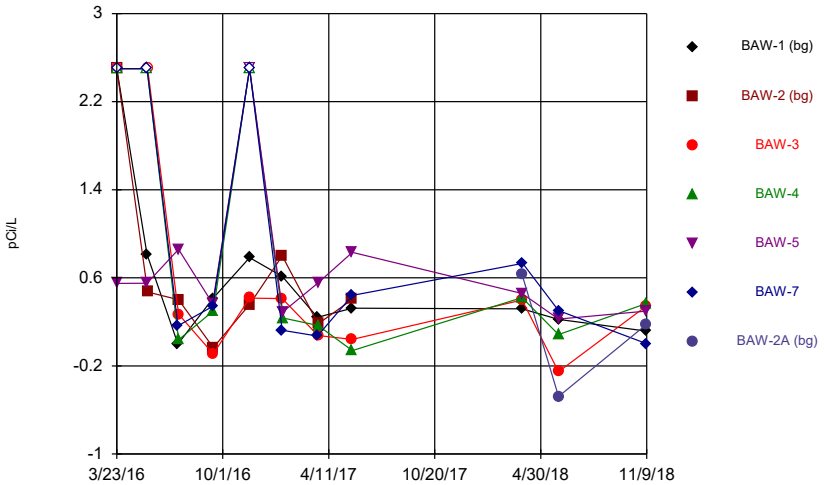
Time Series



Constituent: Cobalt Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

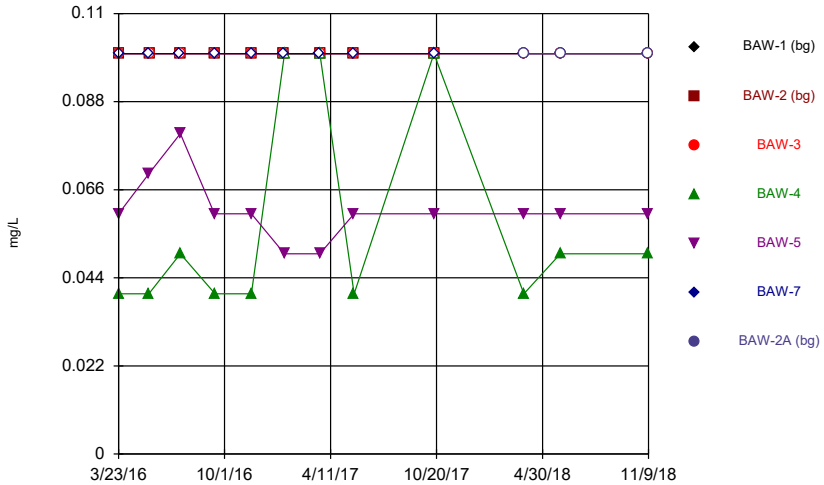
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

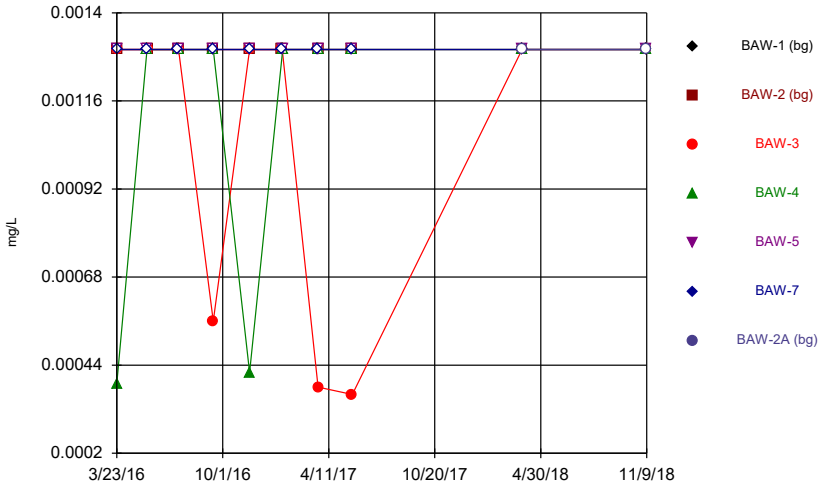
Time Series



Constituent: Fluoride Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

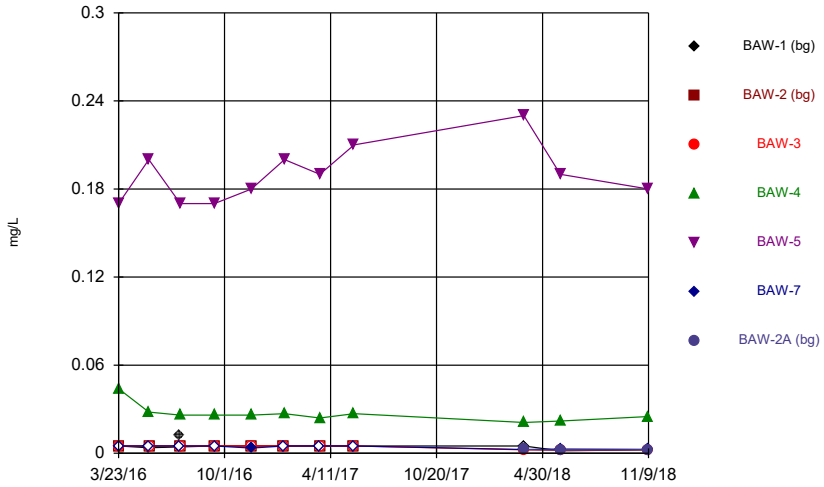
Time Series



Constituent: Lead Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

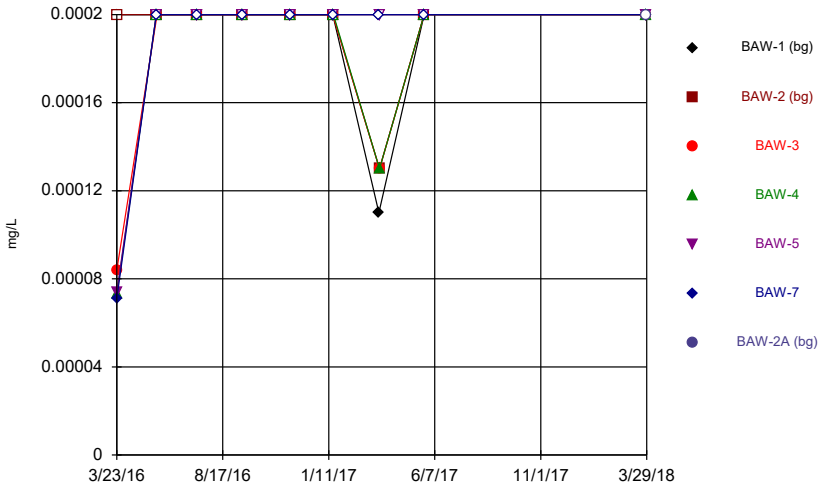
Time Series



Constituent: Lithium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

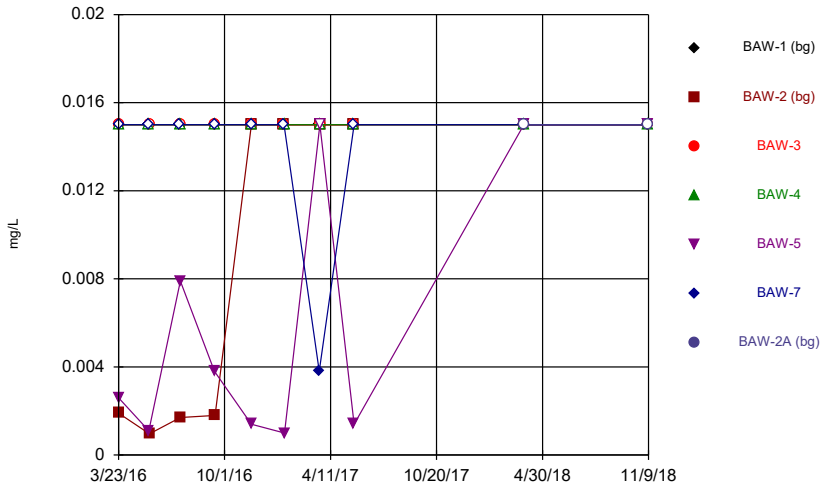
Time Series



Constituent: Mercury Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

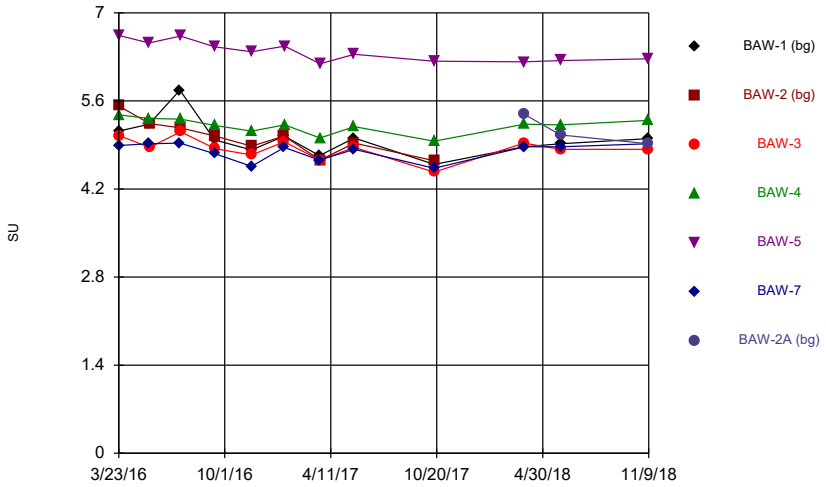
Time Series



Constituent: Molybdenum Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

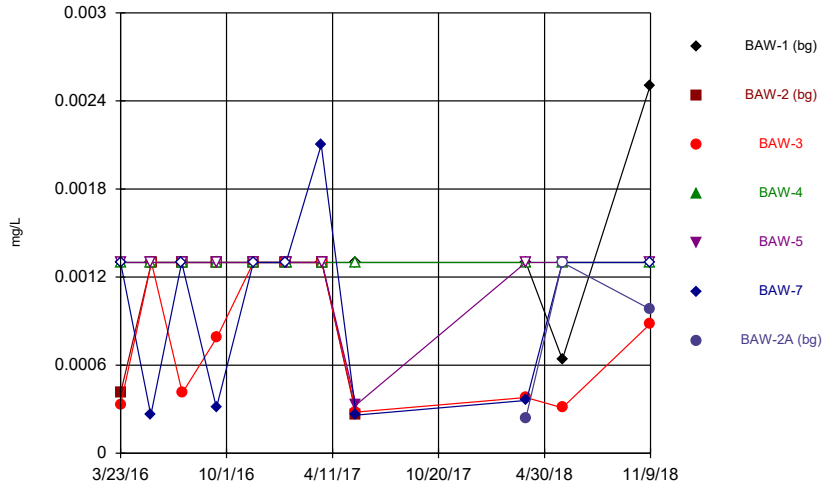
Time Series



Constituent: pH Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

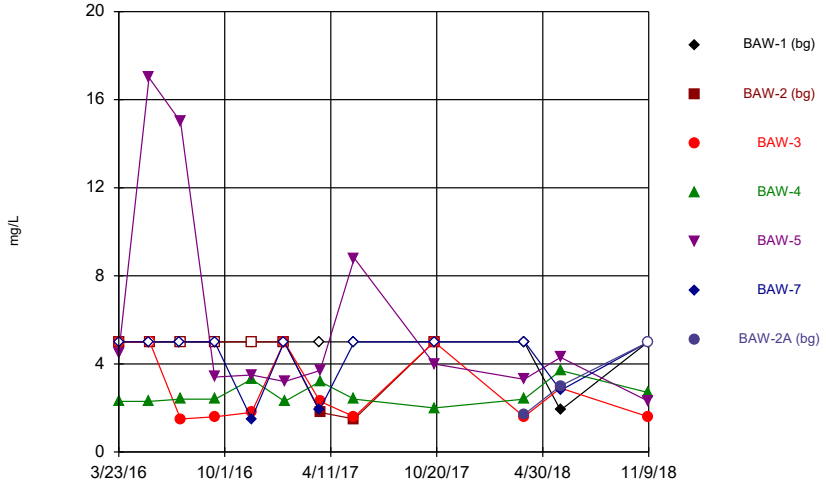
Time Series



Constituent: Selenium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

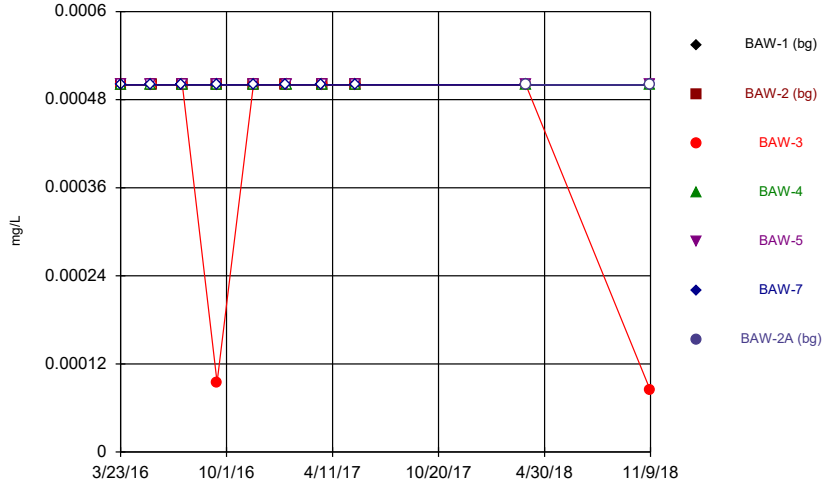
Time Series



Constituent: Sulfate Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

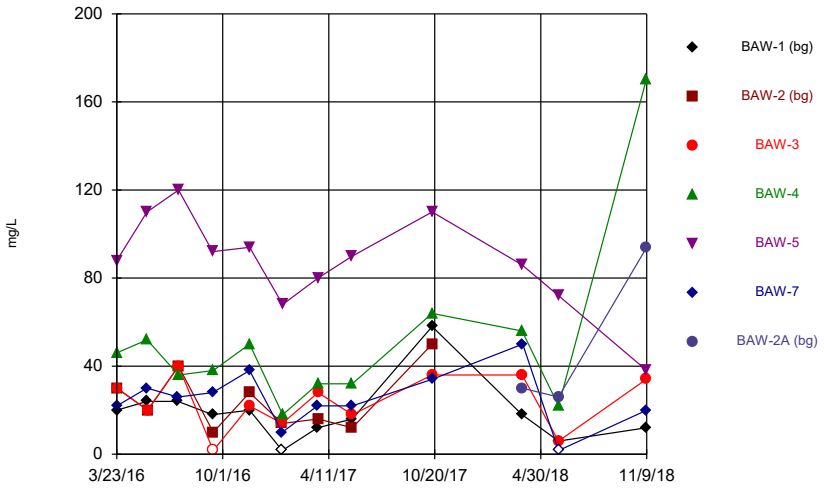
Time Series



Constituent: Thallium Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Hollow symbols indicate censored values.

Time Series



Constituent: Total Dissolved Solids Analysis Run 1/31/2019 8:54 AM View: Time Series - All Data

Plant Daniel Client: Southern Company Data: Bottom Ash CCR

DANIEL ASH POND GWPS			
Constituent Name	**MCL**	**FEDERAL RULE SPECIFIED**	**ACL**
Antimony, Total (mg/L)	0.006		0.0025
Arsenic, Total (mg/L)	0.01		0.0013
Barium, Total (mg/L)	2		0.04053
Beryllium, Total (mg/L)	0.004		0.0025
Cadmium, Total (mg/L)	0.005		0.0025
Chromium, Total (mg/L)	0.1		0.0028
Cobalt, Total (mg/L)	n/a	0.006	0.00143
Combined Radium, Total (pCi/L)	5		2.5
Fluoride, Total (mg/L)	4		0.1
Lead, Total (mg/L)	0.015		0.0013
Lithium, Total (mg/L)	n/a	0.04	0.005
Mercury, Total (mg/L)	0.002		0.0002
Molybdenum, Total (mg/L)	n/a	0.1	0.015
Selenium, Total (mg/L)	0.05		0.0025
Thallium, Total (mg/L)	0.002		0.0005

Notes:

1. N/A = Not Applicable. Under the Federal CCR rule boron is not included in Appendix IV
2. MCL = Maximum Contaminant Level
3. ACL = Alternate Contaminant Level (Background)

Upper Tolerance Limits - App IV

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 12/18/2018, 10:01 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.0025	20	n/a	n/a	95	n/a	n/a	0.3585	NP Inter(NDs)
Arsenic (mg/L)	0.0013	22	n/a	n/a	100	n/a	n/a	0.3235	NP Inter(NDs)
Barium (mg/L)	0.04053	22	0.0009246	0.0003054	0	None	x^2	0.05	Inter
Beryllium (mg/L)	0.0025	20	n/a	n/a	100	n/a	n/a	0.3585	NP Inter(NDs)
Cadmium (mg/L)	0.0025	22	n/a	n/a	100	n/a	n/a	0.3235	NP Inter(NDs)
Chromium (mg/L)	0.0028	22	n/a	n/a	90.91	n/a	n/a	0.3235	NP Inter(NDs)
Cobalt (mg/L)	0.00143	22	0.0008636	0.000241	9.091	None	No	0.05	Inter
Combined Radium 226 + 228 (pCi/L)	2.5	22	n/a	n/a	9.091	n/a	n/a	0.3235	NP Inter(normal...
Fluoride (mg/L)	0.1	24	n/a	n/a	100	n/a	n/a	0.292	NP Inter(NDs)
Lead (mg/L)	0.0013	20	n/a	n/a	100	n/a	n/a	0.3585	NP Inter(NDs)
Lithium (mg/L)	0.005	21	n/a	n/a	71.43	n/a	n/a	0.3406	NP Inter(normal...
Mercury (mg/L)	0.0002	18	n/a	n/a	88.89	n/a	n/a	0.3972	NP Inter(NDs)
Molybdenum (mg/L)	0.015	20	n/a	n/a	80	n/a	n/a	0.3585	NP Inter(NDs)
Selenium (mg/L)	0.0025	22	n/a	n/a	72.73	n/a	n/a	0.3235	NP Inter(normal...
Thallium (mg/L)	0.0005	20	n/a	n/a	100	n/a	n/a	0.3585	NP Inter(NDs)

Confidence Intervals - Significant Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 12/18/2018, 9:52 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	**BAW-5**	**0.2058**	**0.1742**	**0.04**	**Yes**	**11**	**0**	**No**	**0.01**	**Param.**

Confidence Intervals - All Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 12/18/2018, 9:52 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	BAW-1 (bg)	0.0025	0.0013	0.006	No	10	90	No	0.011	NP (NDs)
Antimony (mg/L)	BAW-2 (bg)	0.0025	0.0025	0.006	No	8	100	No	0.004	NP (NDs)
Antimony (mg/L)	BAW-3	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	BAW-4	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	BAW-5	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	BAW-7	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	BAW-1 (bg)	0.0013	0.00046	0.01	No	11	100	No	0.006	NP (NDs)
Arsenic (mg/L)	BAW-2 (bg)	0.0013	0.0013	0.01	No	8	100	No	0.004	NP (NDs)
Arsenic (mg/L)	BAW-3	0.0013	0.00046	0.01	No	11	100	No	0.006	NP (NDs)
Arsenic (mg/L)	BAW-4	0.0013	0.00068	0.01	No	11	36.36	No	0.006	NP (normality)
Arsenic (mg/L)	BAW-5	0.003304	0.001422	0.01	No	11	0	No	0.01	Param.
Arsenic (mg/L)	BAW-7	0.0013	0.00046	0.01	No	11	81.82	No	0.006	NP (NDs)
Barium (mg/L)	BAW-1 (bg)	0.03532	0.02945	2	No	11	0	x^4	0.01	Param.
Barium (mg/L)	BAW-2 (bg)	0.02833	0.02517	2	No	8	0	No	0.01	Param.
Barium (mg/L)	BAW-3	0.02682	0.01646	2	No	11	0	No	0.01	Param.
Barium (mg/L)	BAW-4	0.01043	0.008332	2	No	11	0	No	0.01	Param.
Barium (mg/L)	BAW-5	0.04775	0.04025	2	No	11	0	No	0.01	Param.
Barium (mg/L)	BAW-7	0.013	0.011	2	No	11	0	No	0.006	NP (normality)
Beryllium (mg/L)	BAW-1 (bg)	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	BAW-2 (bg)	0.0025	0.0025	0.004	No	8	100	No	0.004	NP (NDs)
Beryllium (mg/L)	BAW-3	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	BAW-4	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	BAW-5	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	BAW-7	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	BAW-1 (bg)	0.0025	0.00034	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	BAW-2 (bg)	0.0025	0.0025	0.005	No	8	100	No	0.004	NP (NDs)
Cadmium (mg/L)	BAW-3	0.001152	0.0005181	0.005	No	11	9.091	ln(x)	0.01	Param.
Cadmium (mg/L)	BAW-4	0.0025	0.00034	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	BAW-5	0.0025	0.00034	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	BAW-7	0.0025	0.00034	0.005	No	11	100	No	0.006	NP (NDs)
Chromium (mg/L)	BAW-1 (bg)	0.0025	0.0011	0.1	No	11	100	No	0.006	NP (NDs)
Chromium (mg/L)	BAW-2 (bg)	0.0028	0.0014	0.1	No	8	75	No	0.004	NP (normality)
Chromium (mg/L)	BAW-3	0.0025	0.0011	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	BAW-4	0.0025	0.0011	0.1	No	11	72.73	No	0.006	NP (normality)
Chromium (mg/L)	BAW-5	0.0025	0.0011	0.1	No	11	72.73	No	0.006	NP (normality)
Chromium (mg/L)	BAW-7	0.0025	0.0011	0.1	No	11	100	No	0.006	NP (NDs)
Cobalt (mg/L)	BAW-1 (bg)	0.001082	0.0009173	0.006	No	11	9.091	sqrt(x)	0.01	Param.
Cobalt (mg/L)	BAW-2 (bg)	0.00125	0.00048	0.006	No	8	12.5	No	0.004	NP (normality)
Cobalt (mg/L)	BAW-3	0.006353	0.005047	0.006	No	11	0	No	0.01	Param.
Cobalt (mg/L)	BAW-4	0.001292	0.0009242	0.006	No	11	0	No	0.01	Param.
Cobalt (mg/L)	BAW-5	0.00125	0.0002	0.006	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	BAW-7	0.001015	0.0007974	0.006	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	BAW-1 (bg)	1.017	0.06776	5	No	11	9.091	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	BAW-2 (bg)	2.5	-0.033	5	No	8	12.5	No	0.004	NP (normality)
Combined Radium 226 + 228 (pCi/L)	BAW-3	2.5	-0.253	5	No	11	18.18	No	0.006	NP (Cohens/xfrm)
Combined Radium 226 + 228 (pCi/L)	BAW-4	2.5	-0.0607	5	No	11	27.27	No	0.006	NP (Cohens/xfrm)
Combined Radium 226 + 228 (pCi/L)	BAW-5	0.9273	0.3059	5	No	11	9.091	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	BAW-7	2.5	0.00226	5	No	11	27.27	No	0.006	NP (Cohens/xfrm)
Fluoride (mg/L)	BAW-1 (bg)	0.1	0.032	4	No	12	100	No	0.01	NP (NDs)
Fluoride (mg/L)	BAW-2 (bg)	0.1	0.1	4	No	9	100	No	0.002	NP (NDs)
Fluoride (mg/L)	BAW-3	0.1	0.032	4	No	12	100	No	0.01	NP (NDs)
Fluoride (mg/L)	BAW-4	0.1	0.04	4	No	12	25	No	0.01	NP (normality)
Fluoride (mg/L)	BAW-5	0.07	0.05	4	No	12	0	No	0.01	NP (normality)
Fluoride (mg/L)	BAW-7	0.1	0.032	4	No	12	100	No	0.01	NP (NDs)
Lead (mg/L)	BAW-1 (bg)	0.0013	0.0013	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	BAW-2 (bg)	0.0013	0.0013	0.015	No	8	100	No	0.004	NP (NDs)
Lead (mg/L)	BAW-3	0.0013	0.00036	0.015	No	10	70	No	0.011	NP (normality)
Lead (mg/L)	BAW-4	0.0013	0.00039	0.015	No	10	80	No	0.011	NP (NDs)
Lead (mg/L)	BAW-5	0.0013	0.0013	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	BAW-7	0.0013	0.0013	0.015	No	10	100	No	0.011	NP (NDs)
Lithium (mg/L)	BAW-1 (bg)	0.005	0.0017	0.04	No	10	70	No	0.011	NP (normality)
Lithium (mg/L)	BAW-2 (bg)	0.005	0.005	0.04	No	8	100	No	0.004	NP (NDs)
Lithium (mg/L)	BAW-3	0.005	0.002	0.04	No	11	72.73	No	0.006	NP (normality)
Lithium (mg/L)	BAW-4	0.028	0.021	0.04	No	11	0	No	0.006	NP (normality)
Lithium (mg/L)	**BAW-5**	**0.2058**	**0.1742**	**0.04**	**Yes**	**11**	**0**	**No**	**0.01**	**Param.**
Lithium (mg/L)	BAW-7	0.005	0.0026	0.04	No	11	63.64	No	0.006	NP (normality)
Mercury (mg/L)	BAW-1 (bg)	0.0002	0.00011	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-2 (bg)	0.0002	0.00013	0.002	No	8	87.5	No	0.004	NP (NDs)

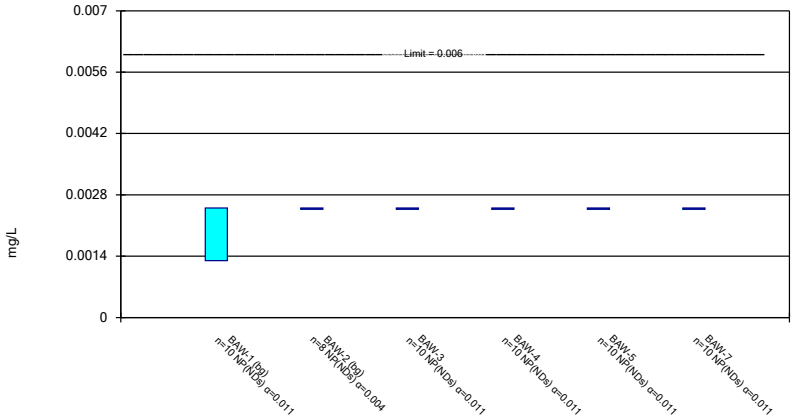
Confidence Intervals - All Results

Plant Daniel Client: Southern Company Data: Bottom Ash CCR Printed 12/18/2018, 9:52 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Mercury (mg/L)	BAW-3	0.0002	0.000084	0.002	No	9	77.78	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-4	0.0002	0.000073	0.002	No	9	77.78	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-5	0.0002	0.000074	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury (mg/L)	BAW-7	0.0002	0.000071	0.002	No	9	88.89	No	0.002	NP (NDs)
Molybdenum (mg/L)	BAW-1 (bg)	0.015	0.015	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	BAW-2 (bg)	0.015	0.00096	0.1	No	8	50	No	0.004	NP (normality)
Molybdenum (mg/L)	BAW-3	0.015	0.015	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	BAW-4	0.015	0.015	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	BAW-5	0.015	0.001	0.1	No	10	30	No	0.011	NP (Cohens/xfrm)
Molybdenum (mg/L)	BAW-7	0.015	0.0038	0.1	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	BAW-1 (bg)	0.0013	0.00064	0.05	No	11	81.82	No	0.006	NP (NDs)
Selenium (mg/L)	BAW-2 (bg)	0.0013	0.00026	0.05	No	8	75	No	0.004	NP (normality)
Selenium (mg/L)	BAW-3	0.0013	0.00028	0.05	No	11	36.36	No	0.006	NP (normality)
Selenium (mg/L)	BAW-4	0.0013	0.00024	0.05	No	11	100	No	0.006	NP (NDs)
Selenium (mg/L)	BAW-5	0.0013	0.00024	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	BAW-7	0.0013	0.00024	0.05	No	11	54.55	No	0.006	NP (normality)
Thallium (mg/L)	BAW-1 (bg)	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	BAW-2 (bg)	0.0005	0.0005	0.002	No	8	100	No	0.004	NP (NDs)
Thallium (mg/L)	BAW-3	0.0005	0.000085	0.002	No	10	80	No	0.011	NP (NDs)
Thallium (mg/L)	BAW-4	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	BAW-5	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	BAW-7	0.0005	0.0005	0.002	No	10	100	No	0.011	NP (NDs)

Non-Parametric Confidence Interval

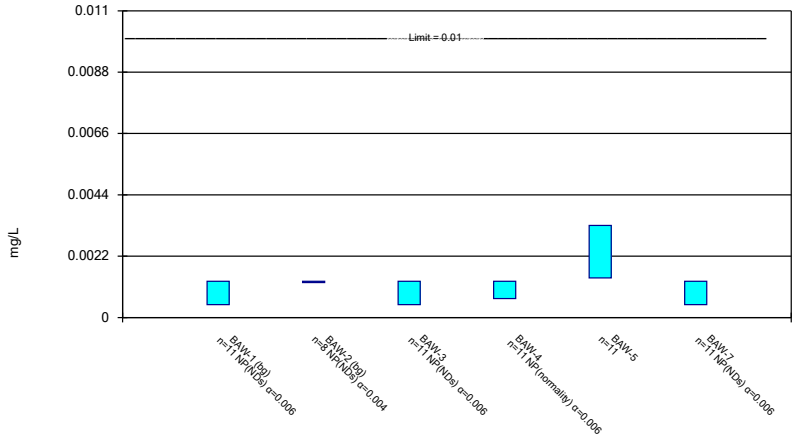
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 12/18/2018 9:49 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

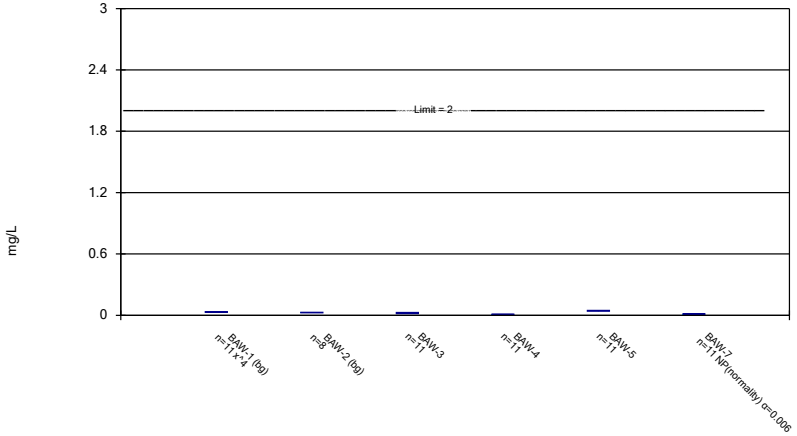
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/18/2018 9:49 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

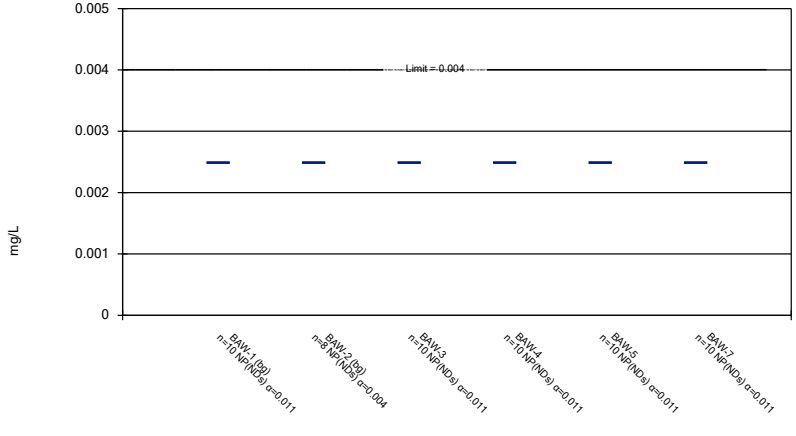
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 12/18/2018 9:49 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

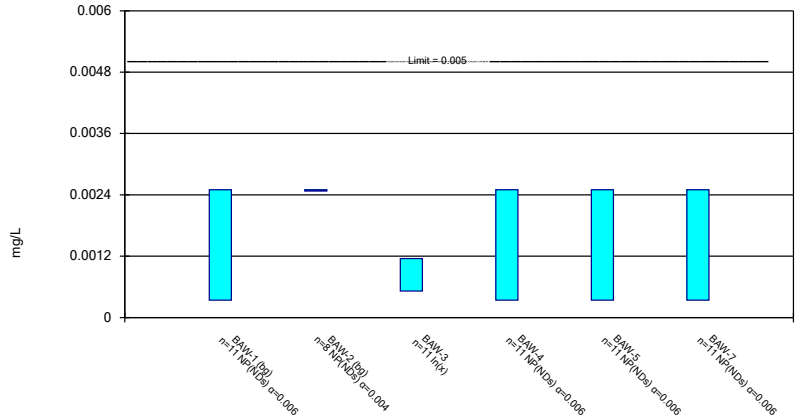
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 12/18/2018 9:49 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

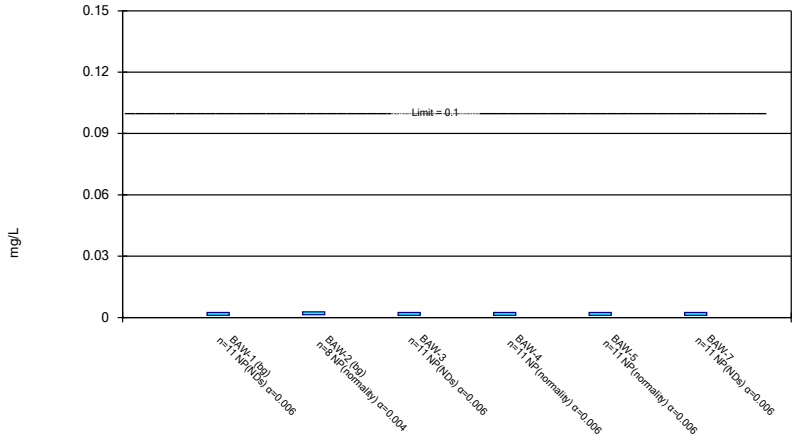
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 12/18/2018 9:49 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

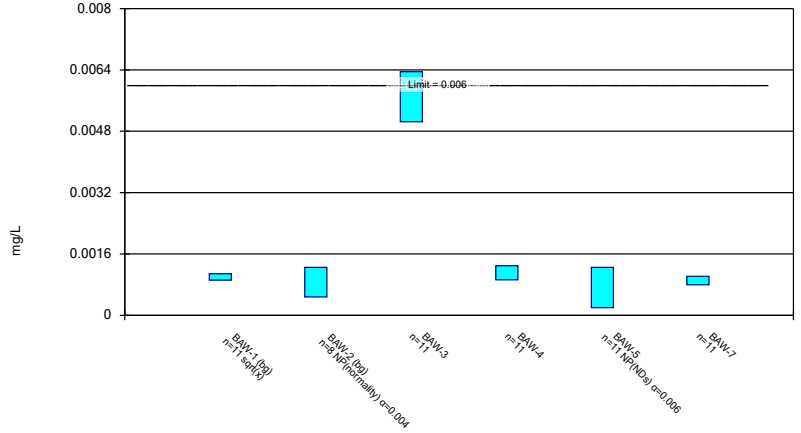
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 12/18/2018 9:49 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

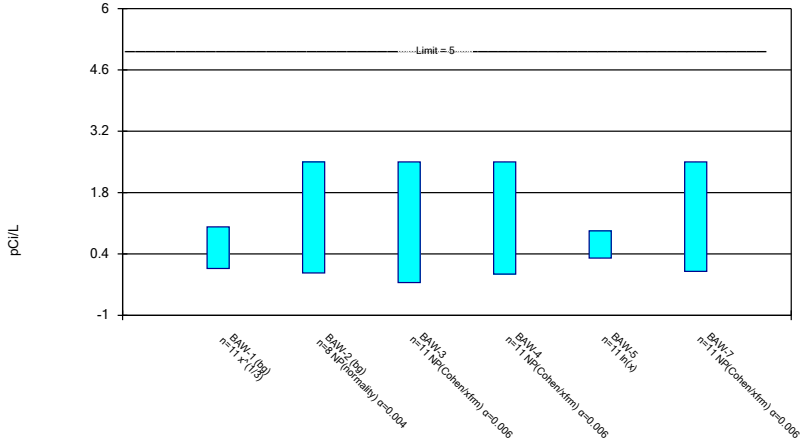
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

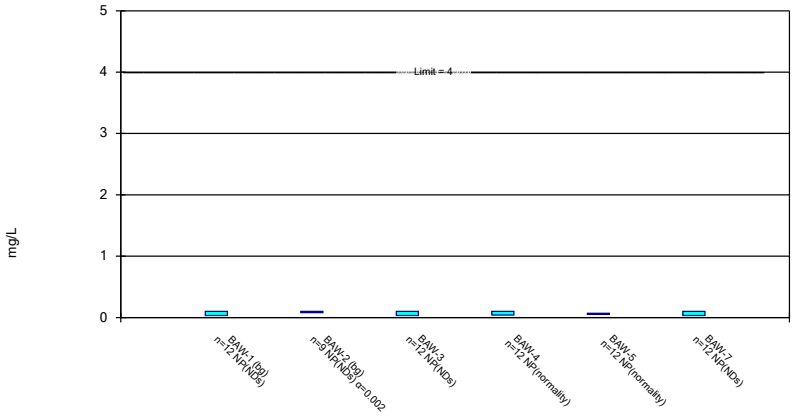
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

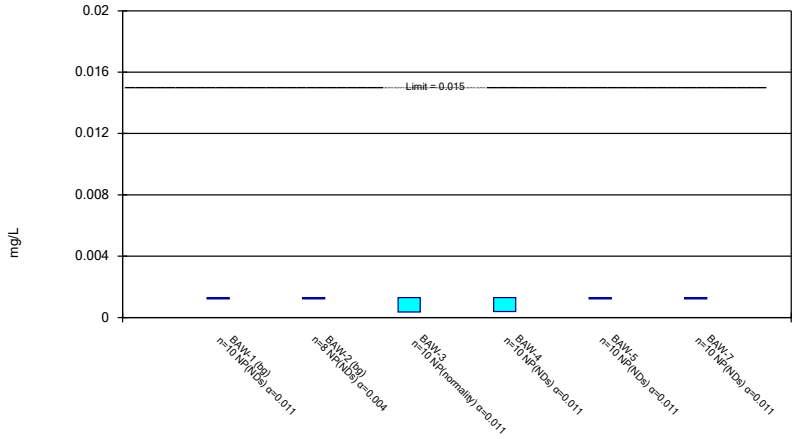
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Fluoride Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

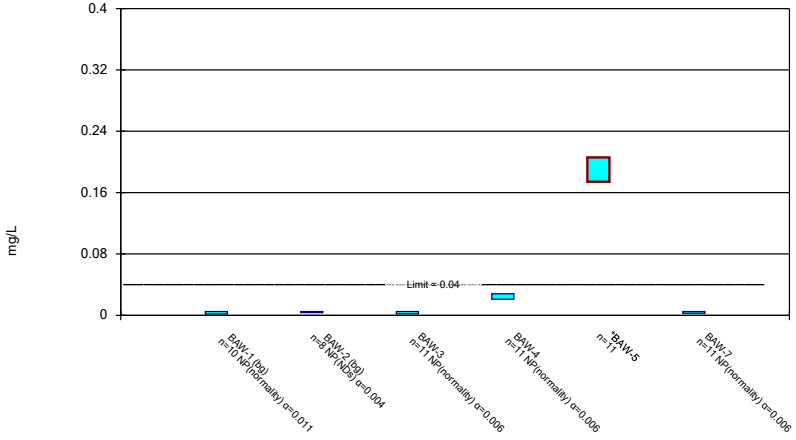
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Parametric and Non-Parametric (NP) Confidence Interval

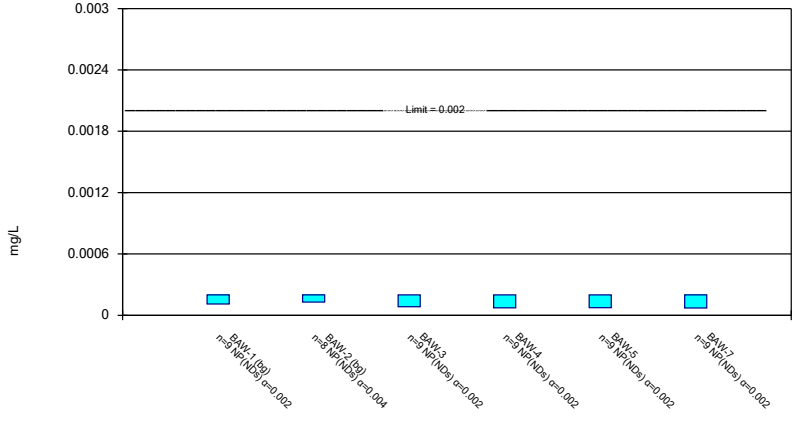
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

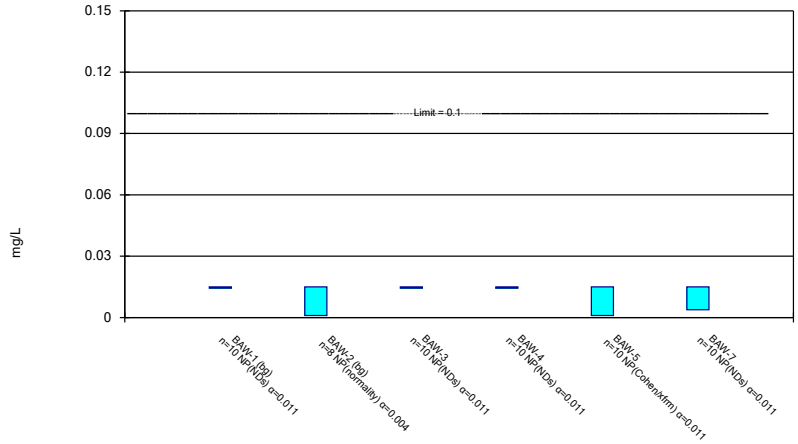
Compliance Limit is not exceeded.



Constituent: Mercury Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

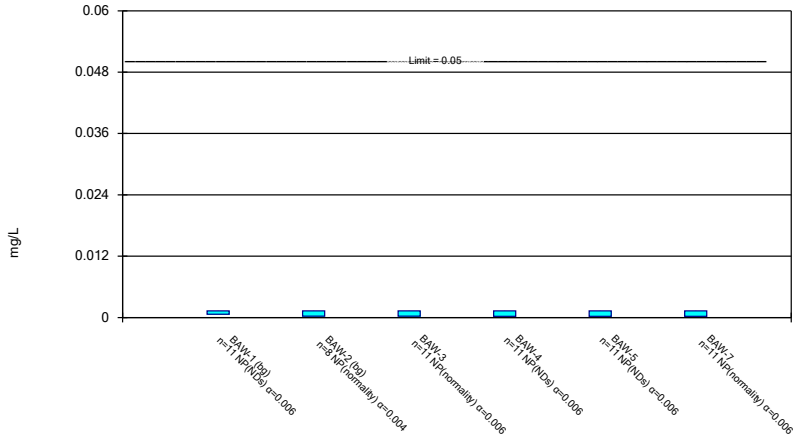
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

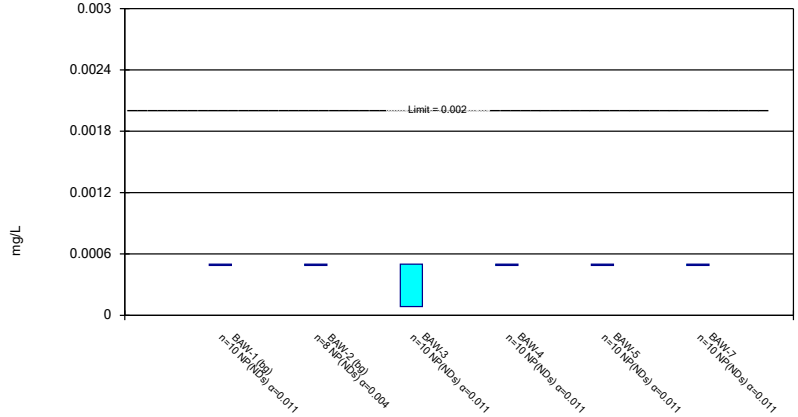
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 12/18/2018 9:50 AM View: Confidence Intervals
Plant Daniel Client: Southern Company Data: Bottom Ash CCR