Prepared for

Gulf Power Company
One Energy Place
Pensacola, Florida 32520

2018 ANNUAL GROUNDWATER MONITORING REPORT

GULF POWER COMPANY, PLANT SMITH ASH POND

Prepared by

Geosyntec consultants

engineers | scientists | innovators

1120 North 12th Avenue
Pensacola, Florida 32501

Project Number TXR0945

January 31, 2019

Geosyntec consultants

CERTIFICATION STATEMENT

This *2018 Annual Groundwater Monitoring Report, Gulf Power Company – Plant Smith – Ash Pond* has been prepared in accordance with the requirements of the United States Environmental Protection Agency coal combustion residuals rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D) under the supervision of a State of Florida licensed Professional Engineer and Professional Geologist with Geosyntec Consultants, Inc.

BENJAMIN AMOS
LICENSE
No 82837
STATE OF FLORIDA
PROFESSIONAL ENGINEER

This document has been electronically signed and sealed by Benjamin Amos P.E. on 31 January 2019 using a SHA-1 authentication code. Printed copies of this document are not considered signed and sealed, and the SHA-1 authentication code must be verified on any electronic copies.
2019.01.31 14:42:48 -05'00'

Benjamin K. Amos, Ph.D., P.E.
Florida Professional Engineer No. 82837

Date

LANE DORMAN
LICENSE
No. PG2861
STATE OF FLORIDA
PROFESSIONAL GEOLOGIST

1/31/19

Lane Dorman, P.G.
Florida Professional Geologist No. PG2861

Date

EXECUTIVE SUMMARY

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residuals (CCR) rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D) (CCR Rule), this *2018 Annual Groundwater Monitoring Report* documents the CCR-groundwater monitoring activities completed in 2018 at Gulf Power Company's (Gulf Power's) Plant Lansing Smith (Site) Ash Pond. The 165-acre Ash Pond ceased receipt of CCR waste in March 2015 and Gulf Power is preparing to close the CCR unit in accordance with a State-approved closure plan.

Gulf Power previously installed a CCR-groundwater monitoring system around the Ash Pond to monitor groundwater within the uppermost aquifer in the vicinity of this CCR unit. Monitoring wells in the CCR-groundwater monitoring network are listed below:

- background wells: MW-02, MW-03, and MW-12;
- downgradient wells: MW-06, MW-07, MW-08, MW-09, MW-10, MW-11, MW-13, and MW-14; and
- piezometers: MW-01, MW-04, and MW-05.

As reported previously (Southern Company, 2018), statistical evaluation of CCR-groundwater monitoring data collected through October 2017 identified statistically significant increases (SSIs) of certain Appendix III groundwater monitoring constituents above background. In accordance with the CCR Rule, Gulf Power initiated an assessment monitoring program for the Ash Pond in March 2018. During the assessment monitoring scan event, samples from monitoring wells in the certified CCR-groundwater monitoring network were collected and analyzed for Appendix III and Appendix IV constituents. The first semi-annual assessment monitoring event was conducted in June 2018 and the second semi-annual assessment monitoring event was conducted in November 2018. Samples collected during the semi-annual assessment monitoring events were analyzed for all Appendix III constituents and those Appendix IV constituents detected in the March 2018 assessment monitoring scan event.

Analytical data from the first semi-annual assessment monitoring event were analyzed in accordance with the *Statistical Analysis Plan* (GSC, 2017) and requirements of the CCR Rule. Statistical analysis of the CCR-groundwater monitoring data identified statistically significant levels (SSLs) of Appendix IV constituents above applicable groundwater protection standards (GWPSs). The following SSLs were identified at the Ash Pond:

- radium 226 and 228 combined (total radium) in MW-06, MW-07, MW-08, MW-09, MW-10, MW-11, MW-13 and MW-14;
- arsenic in MW-11; and
- lithium in MW-13.

In accordance with the CCR Rule, Gulf Power conducted an alternate source demonstration (ASD) which documents that the total radium SSLs are from a source other than the Ash Pond. In addition, Gulf Power initiated an assessment of corrective measures for the Ash Pond in January 2019 for arsenic and lithium.

The Ash Pond will remain in assessment monitoring. The 2019 assessment monitoring scan event is planned for March 2019 and semi-annual assessment monitoring events are planned for May and November 2019.

Geosyntec consultants

TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1
- 1.1 Regional Geology & Hydrogeologic Setting 1
- 1.2 Ash Pond CCR Unit and Groundwater Monitoring System Descriptions .. 2

2.0 GROUNDWATER MONITORING ACTIVITIES 4
- 2.1 Monitoring Well Installation and Maintenance 4
- 2.2 Assessment Monitoring Scan 4
- 2.3 Assessment Monitoring Events 4

3.0 SAMPLE METHODOLOGY & ANALYSES 5
- 3.1 Groundwater Elevation Measurement 5
- 3.2 Groundwater Sampling 5
- 3.3 Laboratory Analyses 5
- 3.4 Quality Assurance & Quality Control Summary 6

4.0 STATISTICAL ANALYSIS 7
- 4.1 Statistical Methods 7
  - 4.1.1 Assessment Monitoring Statistical Method 7
  - 4.1.2 Appendix III Constituent Statistical Methods 7
- 4.2 Statistical Analyses Results 8
  - 4.2.1 Assessment Monitoring Statistical Results 8
  - 4.2.2 Appendix III Constituent Statistical Results 9

5.0 ALTERNATE SOURCE DEMONSTRATION 10

6.0 CONCLUSIONS & FUTURE ACTIONS 11

7.0 REFERENCES 12

TABLE OF CONTENTS (Continued)

LIST OF TABLES

Table 1	Monitoring Well Network Summary
Table 2	Summary of 2018 Groundwater Sampling Events
Table 3	Summary of 2018 Groundwater Laboratory Analytical Data
Table 4	Summary of 2018 Groundwater Elevations
Table 5	Summary of Background Limits and Groundwater Protection Standards

LIST OF FIGURES

Figure 1	Site Location Map – Ash Pond
Figure 2	Well Locations – Ash Pond
Figure 3	Potentiometric Surface Contour Map – March 20, 2018
Figure 4	Potentiometric Surface Contour Map – June 6, 2018
Figure 5	Potentiometric Surface Contour Map – November 19, 2018

LIST OF APPENDICES

Appendix A	Laboratory Analytical and Field Sampling Reports
Appendix B	Statistical Analyses
Appendix C	Alternate Source Demonstration, CCR Unit Ash Pond

1.0 INTRODUCTION

On behalf of Gulf Power Company (Gulf Power), Geosyntec Consultants, Inc. (Geosyntec) has prepared this *2018 Annual Groundwater Monitoring Report* for Gulf Power's Plant Lansing Smith (Site) coal combustion residuals (CCR) unit, the Ash Pond.

The Site is located at 4300 Highway 2300, Bay County, Florida, and is situated on approximately 1,560 acres. A Site location map is provided in **Figure 1**. Site topography is relatively flat. The Site is bordered by undeveloped land to the north and east, Alligator Bayou to the west, and North Bay to the south. The Ash Pond is located on the southern portion of the Site near North Bay. Semi-annual monitoring and reporting for the Ash Pond is being performed in accordance with the requirements of the United States Environmental Protection Agency (USEPA) CCR Rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D).

In compliance with the CCR Rule, a CCR-groundwater detection monitoring program was implemented at the Site. The *2017 Annual Groundwater Monitoring and Corrective Action Report* (Southern Company [SC], 2018) summarized the results of detection monitoring activities conducted through 2017. Statistical evaluation of CCR-groundwater monitoring data collected through October 2017 identified statistically significant increase (SSIs) of certain Appendix III groundwater monitoring constituents above background (SC, 2018). In accordance with the CCR Rule, Gulf Power initiated an assessment monitoring program for the Ash Pond in March 2018. The assessment monitoring scan event was conducted in March 2018, followed by semi-annual assessment monitoring events in June and November 2018.

The purpose of this report is to present a summary of CCR-groundwater monitoring activities conducted in 2018, associated analytical laboratory data, and available statistical analysis results. This report was prepared to meet the annual reporting requirements of the CCR Rule.

1.1 Regional Geology & Hydrogeologic Setting

According to Pratt (1996), the principal aquifers beneath Bay County include the surficial aquifer system, the intermediate aquifer system, and the Floridan Aquifer System. The surficial aquifer system is the shallowest and is an unconfined system formed by recent terrace sands, the Citronelle Formation, and the upper portions of the

Intracoastal Formation in hydraulic connection with these sediments. The general direction of flow is toward the south-southwest.

The intermediate aquifer system in Bay County is semi-confined and consists of the low permeability sediments of the Jackson Bluff and the Intracoastal Formations. Permeable portions of the Intracoastal Formation provide sufficient quantities of water for potable use. Overall, the intermediate aquifer system acts as a confining unit for the underlying Floridan Aquifer System.

CCR unit monitoring wells are screened in the uppermost, water-bearing zone in the undifferentiated quaternary alluvium of the surficial aquifer system. This surficial aquifer system at the Site is considered the uppermost aquifer for groundwater monitoring purposes. Site-specific lithology in the uppermost aquifer consists primarily of sand, silt, and clay mixtures. Groundwater in the surficial aquifer system at the Site is encountered in a laterally-extensive water-bearing unit of predominantly fine sand from approximately 5 to -20 feet (ft) elevation relative to the North American Vertical Datum of 1988 (NAVD88). CCR monitoring wells and piezometers were screened in the uppermost aquifer between approximately 2 and -21 ft NAVD88.

1.2 Ash Pond CCR Unit and Groundwater Monitoring System Descriptions

The Ash Pond occupies approximately 165 acres. Fly ash, bottom ash, and other low-volume waste were sluiced to the Ash Pond until March 2015. The Ash Pond has ceased receipt of CCR waste but continues to receive non-CCR wastewater. Gulf Power is preparing to close the Ash Pond in accordance with a State-approved closure plan.

Pursuant to the CCR Rule, Gulf Power installed a CCR-groundwater monitoring system for the Ash Pond to monitor groundwater within the uppermost aquifer at the Site (SC, 2018). Upgradient (background) monitoring wells were installed to establish Site-wide background water quality. The downgradient monitoring well network was installed at the waste boundary of the Ash Pond. Monitoring wells in the CCR-groundwater monitoring network are as follows:

- background wells: MW-02, MW-03, and MW-12;
- downgradient wells: MW-06, MW-07, MW-08, MW-09, MW-10, MW-11, MW-13, and MW-14; and
- piezometers: MW-01, MW-04, and MW-05.

Monitoring wells and piezometer details, including installation date, coordinates, elevations, screen interval, and designation, are summarized in **Table 1**. **Figure 2** depicts the CCR-groundwater monitoring network for the Ash Pond.

2.0 GROUNDWATER MONITORING ACTIVITIES

In accordance with the CCR Rule, the following section describes CCR-groundwater monitoring-related activities performed during 2018 for the Ash Pond. Samples were collected from monitoring wells in the CCR-groundwater monitoring system shown on **Figure 2**. A summary of CCR-groundwater sampling events completed in 2018, including one assessment monitoring scan event and two semi-annual assessment monitoring events, is provided in **Table 2**. Analytical data associated with the assessment monitoring scan and semi-annual events are summarized in **Table 3**; laboratory analytical reports are included in **Appendix A.**

2.1 Monitoring Well Installation and Maintenance

In accordance with the CCR Rule, CCR-monitoring wells and piezometers sampled and/or gauged in 2018 were installed in 2015 (SC, 2018).

2.2 Assessment Monitoring Scan

An assessment monitoring scan event for the Ash Pond was conducted in March 2018. Samples were collected from each monitoring well in the CCR-groundwater monitoring network and analyzed for Appendix III and Appendix IV constituents. The following Appendix IV constituents were detected during the 2018 scan event: arsenic, barium, beryllium, chromium, cobalt, radium 226 and 228 combined (total radium), fluoride, lithium, molybdenum, and selenium.

2.3 Assessment Monitoring Events

The first semi-annual assessment monitoring event for the Ash Pond was performed in June 2018. The second semi-annual assessment monitoring event for the Ash Pond was conducted in November 2018. Groundwater samples were collected from each CCR-groundwater monitoring well and analyzed for all Appendix III constituents and those Appendix IV constituents detected in the March 2018 scan event.

3.0 SAMPLE METHODOLOGY & ANALYSES

The following section describes the methods used to conduct CCR-groundwater monitoring at the Ash Pond.

3.1 Groundwater Elevation Measurement

Prior to each 2018 CCR-sampling event, groundwater elevations were recorded from the CCR-monitoring well and piezometer network at the Site. Groundwater elevations recorded during the assessment monitoring scan and the two semi-annual assessment monitoring events are summarized in **Table 4**. **Figure 3**, **Figure 4**, and **Figure 5** present Site-wide potentiometric surface elevation contour maps developed using groundwater elevation data collected in March, June, and November 2018, respectively. As shown on the potentiometric figures, regional groundwater generally flows south across the Site and in the vicinity of the Ash Pond, radially away from the Ash Pond. The groundwater flow patterns observed during the 2018 assessment monitoring events are generally consistent with observations from 2017 (SC, 2018).

3.2 Groundwater Sampling

Groundwater samples were collected in general accordance with Florida Department of Environmental Protection (FDEP) Standard Operation Procedure FS2200 (FDEP, 2017) and the CCR Rule. A SmarTroll (In-Situ field instrument) was used to monitor and record field water quality parameters (pH, conductivity, and dissolved oxygen) during well purging to evaluate stabilization prior to sampling. Turbidity was measured using a Hach 2100Q (or similar) portable turbidimeter. Following sample collection, samples were placed in ice-packed coolers and submitted to TestAmerica Laboratories, Inc. (TAL), in Pensacola, Florida following chain-of-custody protocol. Field sampling data sheets are provided in **Appendix A**.

3.3 Laboratory Analyses

Groundwater samples collected for the assessment monitoring scan and the semi-annual assessment monitoring events at the Ash Pond included both Appendix III and Appendix IV constituents. Applicable analytical methods are provided in laboratory reports in **Appendix A**.

Laboratory analyses were performed by TAL. TAL is accredited by the National Environmental Laboratory Accreditation Program (NELAP) and maintain a NELAP

certification for all parameters analyzed for this project. In addition, TAL is certified to perform analyses by the State of Florida. Groundwater data and chain-of-custody records for the monitoring events are presented in **Appendix A**.

3.4 Quality Assurance & Quality Control Summary

During each sampling event for the Ash Pond, quality assurance/quality control (QA/QC) samples including equipment blanks, field blanks, and duplicate samples were collected. Data from these QA/QC samples were evaluated during data validation.

Ash Pond groundwater quality data in this report were independently validated in accordance with USEPA guidance (USEPA, 2011) and the analytical methods. Data validation generally consisted of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, matrix spikes/matrix spike duplicate recoveries and relative percent differences (RPDs), post digestions 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 USEPA procedures as guidance (USEPA, 2017). Data validation reports are included in **Appendix A** for the assessment monitoring scan and first semi-annual assessment monitoring events. Data validation of data collected during the second 2018 semi-annual assessment monitoring event is ongoing and will be reported in 2020.

4.0 STATISTICAL ANALYSIS

The following section describes the statistical methods and analyses performed to assess CCR-groundwater monitoring data collected in 2018 from the Ash Pond.

4.1 Statistical Methods

Pursuant to the CCR Rule, statistical analysis of Appendix III and detected Appendix IV constituents was performed on CCR-groundwater monitoring data collected in 2018 from the CCR-groundwater monitoring network in accordance with the Site *Statistical Analysis Plan* (SAP) (Groundwater Stats Consulting [GSC], 2017). The SAP describes site-specific statistical methods that are used to evaluate CCR-groundwater data at the Ash Pond.

Statistical analysis of Ash Pond CCR-groundwater data was performed using the Sanitas™ v.9.6.05 groundwater statistical software. Sanitas™ is a decision support software package that incorporates statistical tests required of Subtitle C and D facilities by USEPA regulations and incorporates methods recommended in the *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance* (USEPA, 2009).

4.1.1 Assessment Monitoring Statistical Method

Groundwater protection standards (GWPSs) for Appendix IV constituents at the Ash Pond were established in accordance with the CCR Rule and the July 30, 2018 CCR Rule amendment (USEPA, 2018) and are presented in **Table 5**. Additional details are presented in the statistical analysis packages provided in **Appendix B**.

To identify statistically significant levels (SSLs) of Appendix IV constituents, confidence intervals were constructed for each detected Appendix IV constituent in each downgradient well and compared to the GWPSs. An SSL is identified only when the entire confidence interval is above the applicable GWPS. Other statistical tests including time-series plots and trend analyses were performed in accordance with the SAP.

4.1.2 Appendix III Constituent Statistical Methods

Statistical analysis of Appendix III constituents was performed to evaluate if concentrations had returned to background values. Statistical tests used to evaluate the groundwater monitoring data at the Ash Pond consist of interwell prediction limits combined with a 1-of-2 resample strategy for the following Appendix III constituents:

boron, calcium, chloride, fluoride, sulfate and TDS. Interwell prediction limits pool upgradient well data to establish a background prediction limit for an individual constituent. Intrawell prediction limits combined with a 1-of-2 resample strategy were used to evaluate pH at each well. Intrawell prediction limits use historical data from within a given well to compare compliance data within the same well, and the most recent sample from each downgradient well is compared to its respective prediction limit. The 1-of-2 resample strategy allows for collection of a verification sample when a statistically significant increase is identified. If the most recent sample exceeded its respective background prediction limit and a verification sample is not collected, a statistically significant increase (SSI) is identified.

4.2 Statistical Analyses Results

Analytical data from the first semi-annual assessment monitoring event in June 2018 for the Ash Pond was analyzed in accordance with the SAP. Appendix III statistical analysis was performed to evaluate if constituents in the Ash Pond groundwater have returned to background levels. Appendix IV constituents were evaluated to assess if Ash Pond groundwater concentrations statistically exceeded the established GWPSs.

4.2.1 Assessment Monitoring Statistical Results

A summary of the Sanitas™ outputs for the June 2018 assessment event is provided in **Appendix B**. Based on the statistical analysis of Appendix IV constituents the following SSLs were identified at the Ash Pond:

- total radium: MW-06, MW-07, MW-08, MW-09, MW-10, MW-11, MW-13 and MW-14;
- arsenic: MW-11; and
- lithium: MW-13.

In accordance with the CCR Rule, a notification identifying the SSLs for total radium, arsenic, and lithium was prepared for the Ash Pond and placed in the facility's Operating Record. Statistical analysis of data collected during the second semi-annual assessment monitoring event is ongoing and will be reported in 2020.

4.2.2 Appendix III Constituent Statistical Results

Based on review of the Appendix III statistical analysis, concentrations of the previously noted constituents have not returned to background levels and assessment monitoring should continue at the Ash Pond. A summary of Sanitas™ output of Appendix III statistical analysis is presented in **Appendix B**.

5.0 ALTERNATE SOURCE DEMONSTRATION

In accordance with the CCR Rule, Gulf Power prepared an alternate source demonstration (ASD) for total radium. The complete ASD report is provided in **Appendix C**. The key conclusions of the ASD, which were based on historical findings accepted by FDEP (FDEP, 1997a & b), are briefly summarized below:

- parent radionuclides, such as uranium and thorium, that decay into total radium (i.e., radium 226 and 228 combined) are naturally-occurring constituents in native sediments at the Site;
- interactions between saline groundwater and native sediments enriched in uranium and thorium (parent radionuclides to total radium) mobilizes total radium into groundwater; and
- results of extraction tests conducted on ash from the CCR unit demonstrated that the Ash Pond was not the source of the total radium SSLs in groundwater at the Site's CCR monitoring wells.

6.0 CONCLUSIONS & FUTURE ACTIONS

In accordance with the CCR Rule, Gulf Power implemented assessment monitoring in March 2018 for the Ash Pond. SSLs of select Appendix IV constituents (i.e., total radium, arsenic, lithium) relative to GWPSs were identified at the Ash Pond during the first semi-annual assessment monitoring event in 2018. Statistical analysis of Appendix III constituents indicated that concentrations downgradient of the Ash Pond had not returned to background levels. In accordance with the CCR Rule, Gulf Power prepared an ASD for the total radium SSLs which documents that another source caused the SSLs. In addition, Gulf Power initiated an assessment of corrective measures in January 2019 for arsenic and lithium SSLs in groundwater at the Ash Pond.

The Ash Pond will remain in assessment monitoring in 2019. The 2019 CCR-groundwater assessment monitoring scan event is planned for March 2019 and semi-annual CCR-groundwater assessment monitoring events are planned for May and November 2019.

7.0 REFERENCES

Groundwater Stats Consulting (GSC), 2017. Gulf Power Company Plant Smith Ash Pond Statistical Analysis Plan. October.

Pratt, Thomas R., Christopher J. Richards, Katherine A. Milla, Jeffry R. Wagner, Jay L. Johnson, and Ross J. Curry, 1996. *Hydrogeology of the Northwest Florida Water Management District*. Water Resources Special Report 96-4. October.

Florida Department of Environment Protection (FDEP), 2017. *Department of Environmental Protection Standard Operating Procedures for Field Activities.* DEP-SOP-001/01. Florida Department of Environmental Protection. January. https://floridadep.gov/dear/quality-assurance/content/dep-sops

Florida Department of Environmental Protection (FDEP), 6 June 1997a. *Radionuclides at Gulf Power Lansing Smith Plant.*

Florida Department of Environmental Protection (FDEP), 9 June 1997b. Comments concerning *"Factors Affecting the Distribution of Radiological Activity in Groundwater in the Vicinity of Plant Lansing Smith, Bay County, Florida."*

Southern Company (SC), 2018. *2017 Annual Groundwater Monitoring and Corrective Action Report. Gulf Power Company – Plant Smith Ash Pond*. January 31, 2018.

USEPA, 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March.

USEPA, 2011. *Region* IV *Data Validation Standard Operating Procedures.* Science and Ecosystem Support Division. Region IV. Athens, GA. September.

USEPA, 2017. *National Functional Guidelines for Inorganic Superfund Methods Data Review*. Office of Superfund Remediation and Technology Innovation. OLEM 9355.0-135 [EPA-540-R-2017-001]. Washington, DC. January.

USEPA, 2018. *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One, Part One).* EPA-HQ-OLEM-2017-0286; FRL-9981-18-OLEM

TABLES

TABLE 1: MONITORING WELL NETWORK SUMMARY
Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Well Name	Installation Date	Northing	Easting	Ground Elevation	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Designation
MW-01	11/11/2015	464368.78	1589789.76	11.09	10.75	1.15	-8.85	Piezometer
MW-02	11/10/2015	464419.66	1592286.78	10.26	13.29	-2.71	-12.71	Background
MW-03	11/10/2015	464322.49	1594277.21	10.98	14.06	-8.94	-18.94	Background
MW-04	11/7/2015	464027.17	1591388.6	12	15.05	2.25	-7.75	Piezometer
MW-05	11/4/2015	463987.97	1592784.03	11.18	14.13	-1.97	-11.97	Piezometer
MW-06	11/17/2015	463858.8	1591389.13	24.18	23.82	-5.38	-15.38	Downgradient
MW-07	11/3/2015	463856.65	1592774.97	21.72	21.42	-7.88	-17.88	Downgradient
MW-08	11/17/2015	461649.15	1590479.94	21.33	24.31	-8.39	-18.39	Downgradient
MW-09	11/17/2015	460663.62	1590695.95	12.49	15.37	-6.73	-16.73	Downgradient
MW-10	11/20/2015	461234.34	1592098.52	10.94	13.93	-8.67	-18.67	Downgradient
MW-11	11/21/2015	462157.18	1593298.86	13.42	16.51	-6.49	-16.49	Downgradient
MW-12	11/11/2015	462362	1589322.96	8.21	11.14	-10.56	-20.56	Background
MW-13	11/11/2015	462676.94	1590589.33	23.53	26.54	-6.36	-16.36	Downgradient
MW-14	11/10/2015	460892.89	1590173.47	22.11	24.95	-5.69	-15.69	Downgradient

Notes:

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

TABLE 2: SUMMARY OF 2018 GROUNDWATER SAMPLING EVENTS
Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Well Name	2018 Assessment Monitoring Scan	2018 Assessment Monitoring Event 1	2018 Assessment Monitoring Event 2
MW-02	3/21/2018	6/6/2018	11/19/2018
MW-03	3/20/2018	6/6/2018	11/19/2018
MW-06	3/21/2018	6/8/2018	11/19/2018
MW-07	3/21/2018	6/8/2018	11/19/2018
MW-08	3/22/2018	6/7/2018	11/19/2018
MW-09	3/23/2018	6/7/2018	11/20/2018
MW-10	3/22/2018	6/7/2018	11/20/2018
MW-11	3/21/2018	6/7/2018	11/20/2018
MW-12	3/20/2018	6/6/2018	11/19/2018
MW-13	3/22/2018	6/7/2018	11/19/2018
MW-14	3/22/2018	6/7/2018	11/19/2018

Notes:

1. Assessment indicates a sampling event conducted during assessment monitoring, and includes groundwater samples analyzed for Appendix III and Appendix IV parameters.

TABLE 3: SUMMARY OF 2018 GROUNDWATER LABORATORY ANALYTICAL DATA
Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Monitoring Well	Well Designation	Sample Date	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Combined Radium (pCi/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	pH (SU)	Selenium (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Thallium (mg/L)
Assessment Monitoring Scan Event																							
MW-02	Background	3/21/2018	0.001 U	0.00046 U	0.021	0.00034 U	0.021 U	0.00034 U	45	9.3 V	0.0032	0.0004 U	1.32	0.28	0.00035 U	0.012	0.00007 U	0.00085 U	6.68	0.00024 U	1.4 U	150	0.000085 U
MW-03	Background	3/20/2018	0.001 U	0.00046 U	0.018	0.00034 U	0.021 U	0.00034 U	1.9	11 V	0.0024 I	0.0004 U	1.82	0.032 U	0.00035 U	0.016	0.00007 U	0.00085 U	4.92	0.00069 I	1.4 U	12	0.000085 U
MW-12	Background	3/20/2018	0.001 U	0.00046 U	0.013	0.00034 U	0.072	0.00034 U	34	190	0.0011 U	0.0004 U	1.81	0.12	0.00035 U	0.016	0.00007 U	0.00085 U	6.05	0.00024 U	1.8 I	510	0.000085 U
MW-06	Downgradient	3/21/2018	0.001 U	0.00048 I	0.06	0.0014 I	8.6	0.00034 U	290	2900	0.0011 U	0.0004 U	24.5	0.05 I	0.00035 U	0.019	0.00007 U	0.00085 U	5.3	0.00037 I	530	5400	0.000085 U
MW-07	Downgradient	3/21/2018	0.001 U	0.0014	0.061	0.00034 U	3	0.00034 U	200	1300	0.0013 I	0.0004 U	19.3	0.032 U	0.00035 U	0.0023 I	0.00007 U	0.0058 I	6.26	0.00062 I	720	3400	0.000085 U
MW-08	Downgradient	3/22/2018	0.001 U	0.00097 I	0.064	0.0014 I	15	0.00034 U	540	3200	0.0011 U	0.0004 U	32.4	0.032 U	0.00035 U	0.011	0.00007 U	0.00085 U	4.61	0.0003 I	900	8100	0.000085 U
MW-09	Downgradient	3/23/2018	0.001 U	0.0022	0.093	0.00034 U	9.4	0.00034 U	290	2300	0.0011 U	0.0004 U	12.8	0.032 U	0.00035 U	0.0056	0.00007 U	0.0014 I	6.4	0.00024 U	630	1700	0.000085 U
MW-10	Downgradient	3/22/2018	0.001 U	0.0034	0.1	0.00039 I	11	0.00034 U	510	2700	0.0011 U	0.0004 U	19.7	0.032 U	0.00035 U	0.0065	0.00007 U	0.0018 I	5.31	0.00024 U	810	6800	0.000085 U
MW-11	Downgradient	3/21/2018	0.001 U	0.016	0.081	0.0025	3.7	0.00034 U	99	1900	0.068	0.00046 I	26.5	0.05 I	0.00035 U	0.012	0.00007 U	0.017	6.28	0.00066 I	240	3600	0.000085 U
MW-13	Downgradient	3/22/2018	0.001 U	0.0014	0.098	0.00034 U	15	0.00034 U	740	4100	0.0024 I	0.0004 U	14	0.04 I	0.00035 U	0.25	0.00007 U	0.033	6.88	0.00024 U	970	11000	0.000085 U
MW-14	Downgradient	3/22/2018	0.001 U	0.0041	0.051	0.00034 U	12	0.00034 U	250	2000	0.0017 I	0.0004 U	4.78	0.07 I	0.00035 U	0.0013 I	0.00007 U	0.017	6.87	0.00024 U	590	4800	0.000085 U
Assessment Monitoring Event 1																							
MW-02	Background	6/6/2018	--	0.00046 U	0.017	0.00034 U	0.027 I	--	32	13	0.0029	0.0004 U	1.32	0.19	--	0.0051	--	0.00085 U	6.47	0.00024 U	4.8 I	160	--
MW-03	Background	6/6/2018	--	0.00046 U	0.018	0.00034 U	0.021 U	--	1.8	11	0.0026	0.0004 U	1.19	0.04 I	--	0.011	--	0.00085 U	4.96	0.0003 I	1.4 U	46	--
MW-12	Background	6/6/2018	--	0.00046 U	0.012	0.00034 U	0.077	--	30	190	0.0011 U	0.0004 U	2.32	0.12	--	0.011	--	0.00085 U	6.04	0.00024 U	2.3 I	460	--
MW-06	Downgradient	6/8/2018	--	0.0009 I	0.058	0.0014 I	8.4	--	290	2900	0.0011 U	0.0004 U	26.9	0.05 I	--	0.014	--	0.00085 U	5.25	0.00025 I	560	6100	--
MW-07	Downgradient	6/8/2018	--	0.0022	0.06	0.00034 U	3	--	200	1400	0.0012 I	0.0004 U	21.6	0.032 U	--	0.0018 I	--	0.0067 I	6.31	0.00028 I	750	3200	--
MW-08	Downgradient	6/7/2018	--	0.002	0.062	0.0014 I	15	--	530	3500	0.0011 U	0.0004 U	37.5	0.032 U	--	0.0076	--	0.00085 U	4.73	0.00032 I	910	6000	--
MW-09	Downgradient	6/7/2018	--	0.003	0.089	0.00034 U	9.3	--	280	2200	0.0011 U	0.0004 U	13.9	0.05 I	--	0.0026 I	--	0.0036 I	6.52	0.00024 U	640	4000	--
MW-10	Downgradient	6/7/2018	--	0.0027	0.1	0.00044 I	11	--	500	2700	0.0011 U	0.0004 U	18.5	0.032 U	--	0.0054	--	0.001 I	5.35	0.00024 U	830	5800	--
MW-11	Downgradient	6/7/2018	--	0.018	0.078	0.00092 I	3.7	--	100	2000	0.0048	0.0004 U	23.6	0.032 U	--	0.0038 I	--	0.013 I	6.39	0.0006 I	240	3400	--
MW-13	Downgradient	6/7/2018	--	0.0016	0.089	0.00034 U	15	--	670	4300	0.0011 U	0.0004 U	14.9	0.05 I	--	0.2	--	0.042	6.86	0.00031 I	840	8200	--
MW-14	Downgradient	6/7/2018	--	0.0051	0.051	0.00034 U	12	--	260	2200	0.0011 U	0.0004 U	4.88	0.08 I	--	0.0011 U	--	0.016	6.88	0.00041 I	590	4200	--
Assessment Monitoring Event 2																							
MW-02	Background	11/19/2018	--	0.00046 U	0.013	0.00034 U	0.045 I	--	20	13	0.0019 I	0.0004 U	0.763	0.12	--	0.0028 I	--	0.002 U	6.09	0.00071 U	4.4 I	88	--
MW-03	Background	11/19/2018	--	0.00046 U	0.019	0.00034 U	0.021 U	--	1.8	13	0.0024 I	0.0004 U	2.18	0.04 I	--	0.011	--	0.002 U	4.95	0.00071 U	1.4 U	22	--
MW-12	Background	11/19/2018	--	0.00046 U	0.014	0.00034 U	0.071	--	38	210	0.0011 U	0.0004 U	2.37	0.13	--	0.011	--	0.002 U	6.11	0.00071 U	2.2 I	490	--
MW-06	Downgradient	11/19/2018	--	0.00075 I	0.062	0.0016 I	9.5	--	240	3200	0.0011 U	0.0004 U	27.4	0.04 I	--	0.024	--	0.002 U	5.26	0.00071 U	520	5500	--
MW-07	Downgradient	11/19/2018	--	0.0018	0.14	0.00034 U	3.5	--	380	3300	0.0016 I	0.0004 U	53.5	0.032 U	--	0.0047 I	--	0.002 U	6.15	0.00071 U	910	6500	--
MW-08	Downgradient	11/19/2018	--	0.0015	0.058	0.0016 I	17	--	480	3600	0.0011 U	0.0004 U	33.6	0.032 U	--	0.015	--	0.002 U	3.26	0.00071 U	960	7300	--
MW-09	Downgradient	11/20/2018	--	0.0037	0.077	0.00034 U	11	--	220	2200	0.0011 U	0.0004 U	13.2	0.032 U	--	0.0013 I	--	0.002 U	6.52	0.00071 U	580	4400	--
MW-10	Downgradient	11/20/2018	--	0.0033	0.095	0.0004 I	12	--	440	2800	0.0011 U	0.0004 U	19.8	0.032 U	--	0.0048 I	--	0.0028 I	5.18	0.00071 U	830	6000	--
MW-11	Downgradient	11/20/2018	--	0.015	0.11	0.0011 I	4.1	--	120	2400	0.0036	0.0004 U	28.6	0.032 U	--	0.011	--	0.0069 I	6.35	0.00071 U	250	4100	--
MW-13	Downgradient	11/19/2018	--	0.0016	0.079	0.00034 U	16	--	550	4500	0.0011 U	0.0004 U	11.6	0.04 I	--	0.26	--	0.02	6.99	0.00071 U	810	8600	--
MW-14	Downgradient	11/19/2018	--	0.0058	0.057	0.00034 U	15	--	290	2400	0.0011 U	0.0004 U	5.59	0.08 I	--	0.0011 U	--	0.013 I	6.86	0.00071 U	720	4900	--

Notes:

1. mg/L indicates milligrams per liter, pCi/L indicates picocuries per liter, SU indicates standard units.
2. TDS indicates Total Dissolved Solids.
3. -- indicates that the constituent was not detected in the assessment monitoring scan event and therefore not sampled in the assessment monitoring events.
4. "U" indicates analyte was analyzed but not detected. "I" indicates that the reported value is between laboratory method detection limit and laboratory practical quantitation limit.
5. "V" indicates that the analyte was detected at or above the method detection limit in both the sample and associated method blank and the value of 10 times the blank was equal to or greater than the associated sample value.
6. Data validation was performed on assessment monitoring scan event and the first assessment monitoring event. Data validation is ongoing for the second assessment monitoring event. Data validation flags are not included in Table 3. Data validation reports are included in Appendix A.

TABLE 4: SUMMARY OF 2018 GROUNDWATER ELEVATIONS
Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Monitoring Well	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
MW-01	464368.78	1589789.76	10.75	3/20/2018	5.45	5.30
MW-02	464419.66	1592286.78	13.29	3/20/2018	5.20	8.09
MW-03	464322.49	1594277.21	14.06	3/20/2018	6.70	7.36
MW-04	464027.17	1591388.6	15.05	3/20/2018	7.31	7.74
MW-05	463987.97	1592784.03	14.13	3/20/2018	6.29	7.84
MW-06	463858.8	1591389.13	23.82	3/20/2018	12.94	10.88
MW-07	463856.65	1592774.97	21.42	3/20/2018	11.79	9.63
MW-08	461649.15	1590479.94	24.31	3/20/2018	17.37	6.94
MW-09	460663.62	1590695.95	15.37	3/20/2018	11.21	4.16
MW-10	461234.34	1592098.52	13.93	3/20/2018	6.84	7.09
MW-11	462157.18	1593298.86	16.51	3/20/2018	10.39	6.12
MW-12	462362	1589322.96	11.14	3/20/2018	9.41	1.73
MW-13	462676.94	1590589.33	26.54	3/20/2018	14.74	11.80
MW-14	460892.89	1590173.47	24.95	3/20/2018	22.38	2.57

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.
3. Depth to water measurements are in feet.

TABLE 4: SUMMARY OF 2018 GROUNDWATER ELEVATIONS
Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Monitoring Well	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
MW-01	464368.78	1589789.76	10.75	6/6/2018	4.94	5.81
MW-02	464419.66	1592286.78	13.29	6/6/2018	4.01	9.28
MW-03	464322.49	1594277.21	14.06	6/6/2018	5.49	8.57
MW-04	464027.17	1591388.6	15.05	6/6/2018	6.46	8.59
MW-05	463987.97	1592784.03	14.13	6/6/2018	5.35	8.78
MW-06	463858.8	1591389.13	23.82	6/6/2018	13.04	10.78
MW-07	463856.65	1592774.97	21.42	6/6/2018	11.39	10.03
MW-08	461649.15	1590479.94	24.31	6/6/2018	16.86	7.45
MW-09	460663.62	1590695.95	15.37	6/6/2018	10.8	4.57
MW-10	461234.34	1592098.52	13.93	6/6/2018	6.83	7.10
MW-11	462157.18	1593298.86	16.51	6/6/2018	8.86	7.65
MW-12	462362	1589322.96	11.14	6/6/2018	9.83	1.31
MW-13	462676.94	1590589.33	26.54	6/6/2018	14.61	11.93
MW-14	460892.89	1590173.47	24.95	6/6/2018	22.08	2.87

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.
3. Depth to water measurements are in feet.

TABLE 4: SUMMARY OF 2018 GROUNDWATER ELEVATIONS
Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Monitoring Well	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
MW-01	464368.78	1589789.76	10.75	11/19/2018	4.85	5.90
MW-02	464419.66	1592286.78	13.29	11/19/2018	4.02	9.27
MW-03	464322.49	1594277.21	14.06	11/19/2018	5.72	8.34
MW-04	464027.17	1591388.6	15.05	11/19/2018	4.28	10.77
MW-05	463987.97	1592784.03	14.13	11/19/2018	4.01	10.12
MW-06	463858.8	1591389.13	23.82	11/19/2018	13.55	10.27
MW-07	463856.65	1592774.97	21.42	11/19/2018	11.75	9.67
MW-08	461649.15	1590479.94	24.31	11/19/2018	17.82	6.49
MW-09	460663.62	1590695.95	15.37	11/19/2018	10.40	4.97
MW-10	461234.34	1592098.52	13.93	11/19/2018	8.15	5.78
MW-11	462157.18	1593298.86	16.51	11/19/2018	9.59	6.92
MW-12	462362	1589322.96	11.14	11/19/2018	9.88	1.26
MW-13	462676.94	1590589.33	26.54	11/19/2018	15.65	10.89
MW-14	460892.89	1590173.47	24.95	11/19/2018	21.61	3.34

Notes:

1. Northing and easting are in feet relative to the State Plane Florida North Datum of 1983.
2. Elevations are in feet relative to the North American Vertical Datum of 1988.
3. Depth to water measurements are in feet.

TABLE 5: SUMMARY OF BACKGROUND LIMITS AND GROUNDWATER PROTECTION STANDARDS

Plant Smith - Ash Pond, Gulf Power Company, Bay County, Florida

Analyte	Units[1]	USEPA MCL or RSL[2]	Statistically Derived Upper Tolerance Limit (UTL)	Groundwater Protection Standard (GWPS)[4]
Antimony	mg/L	0.006	0.003	0.006
Arsenic	mg/L	0.01	0.001	0.010
Barium	mg/L	2	0.031	2.000
Beryllium	mg/L	0.004	0.003	0.004
Cadmium	mg/L	0.005	0.003	0.005
Chromium	mg/L	0.1	0.012	0.100
Cobalt[3]	mg/L	0.006	0.003	0.006
Fluoride	mg/L	4	0.272	4
Lead[3]	mg/L	0.015	0.001	0.015
Lithium[3]	mg/L	0.04	0.018	0.040
Mercury	mg/L	0.002	0.0002	0.002
Molybdenum[3]	mg/L	0.1	0.015	0.100
Selenium	mg/L	0.05	0.001	0.050
Thallium	mg/L	0.002	0.001	0.002
Combined Radium-226/228	pCi/L	5	4.2	5

Notes:

1. mg/L indicates milligrams per liter; pCi/L indicates picocuries per liter.
2. MCL: Maximum Contaminant Level; RSL : Regional Screening Levels.
3. Numerical limit established in CCR Rule Ammendment dated July 30, 2018.
4. GWPS selected as the higher of EPA MCL or RSL and Statistically Derived Upper Tolerance Limit.

FIGURES

Legend

Approximate Ash Pond Boundary (CCR Unit)

Approximate Property Boundary

Notes:
1. CCR indicates Coal Combustion Residuals.
2. Source of 2016 World Imagery: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.
3. Source of inset World Street Map: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community.

Path: (Pensacola-01\Data\LP\GIS\170074_Plant_Smith\MXDs\2019Q1\SiteLocationMap_PlantSmith.mxd 23 Jan 2019 MAH

Site Location Map – Ash Pond

Gulf Power Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | January 2019

Figure 1

Legend

- Downgradient Well Location
- Background Well Location
- Piezometer Location
- Approximate Ash Pond Boundary (CCR Unit)
- Approximate Property Boundary

Notes:
1. CCR indicates Coal Combustion Residuals.
2. Source of 2016 World Imagery: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Well Locations - Ash Pond

Gulf Power Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | January 2019

Figure 2

Path: [Tallahassee-01\Data\JP\GIS\TXR0714_Plant_Smith\MXDs\2019\01\MW_locs.mxd 23 Jan 2019 MAH

Notes:
1. * indicates groundwater elevation not used for contouring.
2. CCR indicates Coal Combustion Residuals.
3. Water level measurements collected between 21 March 2018.
4. ft NAVD88 indicates feet North American Vertical Datum of 1988.
5. Source of 2016 World Imagery: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Potentiometric Surface Contour Map
March 20, 2018
Plant Lansing Smith

Gulf Power Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | January 2019

Figure 3

Path: [File=file-01] Data\JT\GIS\TW0714_Plant_Smith\MXDs\2019\1\GW_elev_MAR 2018.mxd 23 Jan 2019 JRB

Notes:
1. * indicates groundwater elevation not used for contouring.
2. CCR indicates Coal Combustion Residuals.
3. Water level measurements collected between 6 June 2018.
4. ft NAVD88 indicates feet North American Vertical Datum of 1988.
5. Source of 2016 World Imagery: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Potentiometric Surface Contour Map
June 6, 2018
Plant Lansing Smith

Gulf Power Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | January 2019

Figure 4

Path: [Filesville-01\Data\17\GIS\TW0714_Plant_Smith\MXDs\2019\1\GW_elev_JUNE-2018.mxd 23 Jan 2019 JRB

Notes:
1. * indicates groundwater elevation not used for contouring.
2. CCR indicates Coal Combustion Residuals.
3. Water level measurements collected between 19 November 2018.
4. ft NAVD88 indicates feet North American Vertical Datum of 1988.
5. Source of 2016 World Imagery: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Potentiometric Surface Contour Map
November 19, 2018
Plant Lansing Smith
Gulf Power Company
Plant Lansing Smith
Bay County, Florida

Geosyntec consultants

Pensacola, FL | January 2019

Figure 5

Path: [Tallahassee-01\Data\JT\GIS\TW8714_Plant_Smith\MXDs\2018\GW_elev_NOV 2018.mxd] 23 Jan 2019 JRB

APPENDIX A

Laboratory Analytical and Field Sampling Reports

Product Name: Low-Flow System

Date: 2018-03-21 13:24:30

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	35.0 ft

Well Information:		Pumping Information:	
Well ID	MW-06	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	44 in
Depth to Water	12.96 ft	Total Volume Pumped	22 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	13:01:20	2100.02	25.32	5.42	9467.86	3.11	16.46	0.16	-162.49
Last 5	13:06:20	2400.02	25.27	5.38	9527.77	4.28	16.54	0.16	-154.63
Last 5	13:11:20	2700.02	25.28	5.34	9635.16	2.86	16.59	0.16	-148.03
Last 5	13:16:20	3000.02	25.46	5.32	9683.10	2.36	16.67	0.16	-143.05
Last 5	13:21:20	3300.02	25.45	5.30	9720.58	2.35	16.71	0.15	-138.70
Variance 0			0.01	-0.04	107.39			-0.00	6.60
Variance 1			0.18	-0.03	47.94			-0.01	4.99
Variance 2			-0.01	-0.02	37.49			-0.01	4.35

Notes

Sample time 1324. Sunny 62.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-21 11:46:14

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	35.0 ft

Well Information:		Pumping Information:	
Well ID	MW-07	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6 in
Depth to Water	11.94 ft	Total Volume Pumped	16 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	11:23:23	1200.02	24.89	6.24	5478.65	10.50	12.57	0.08	-250.98
Last 5	11:28:23	1500.02	24.99	6.24	5456.13	9.01	12.57	0.07	-253.20
Last 5	11:33:23	1800.02	25.11	6.25	5476.99	6.88	12.57	0.07	-255.86
Last 5	11:38:23	2100.02	25.02	6.26	5490.44	6.19	12.57	0.08	-257.24
Last 5	11:43:23	2400.02	25.15	6.26	5484.29	3.45	12.57	0.07	-257.82
Variance 0			0.12	0.01	20.86			0.00	-2.66
Variance 1			-0.09	0.00	13.44			0.01	-1.38
Variance 2			0.13	0.00	-6.15			-0.01	-0.58

Notes

Sample time 1146. Sunny 59.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-22 16:41:02

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	38.0 ft

Well Information:		Pumping Information:	
Well ID	MW-08	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	89 in
Depth to Water	17.61 ft	Total Volume Pumped	24 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	16:17:14	2399.94	26.55	4.44	11219.62	1.23	24.79	0.06	-47.92
Last 5	16:22:14	2699.94	26.49	4.50	11201.23	1.00	24.89	0.06	-40.96
Last 5	16:27:14	2999.94	26.38	4.53	11192.88	1.07	24.96	0.06	-32.77
Last 5	16:32:14	3299.94	26.56	4.57	11175.23	1.17	25.03	0.06	-29.90
Last 5	16:37:14	3599.94	26.47	4.61	11146.94	1.05	25.06	0.06	-25.87
Variance 0			-0.11	0.03	-8.35			-0.00	8.18
Variance 1			0.18	0.04	-17.64			-0.00	2.87
Variance 2			-0.09	0.04	-28.30			0.00	4.04

Notes

Sample time 1640. Sunny 65.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-23 09:02:38

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-09	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	15 in
Depth to Water	11.57 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	08:38:29	599.98	24.88	6.46	7764.92	8.49	12.84	0.10	-260.49
Last 5	08:43:29	899.98	24.77	6.43	7929.13	5.87	12.86	0.08	-260.55
Last 5	08:48:29	1199.98	24.87	6.42	7961.10	4.79	12.87	0.07	-259.63
Last 5	08:53:29	1499.98	24.97	6.41	7957.48	3.81	12.87	0.06	-258.67
Last 5	08:58:29	1799.98	24.82	6.40	7993.90	4.09	12.87	0.06	-257.93
Variance 0			0.10	-0.01	31.97			-0.01	0.92
Variance 1			0.09	-0.01	-3.62			-0.01	0.96
Variance 2			-0.15	-0.01	36.42			-0.00	0.74

Notes

Sample time 0902. Dup-04 fake sample time 0802. EB-02 sample time 0805. FB-02 sample time 0755. Sunny 56.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-22 10:52:51

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-10	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	18 in
Depth to Water	7.09 ft	Total Volume Pumped	24 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	10:30:09	2400.02	26.34	5.32	9619.75	16.60	8.58	0.07	-159.96
Last 5	10:35:09	2700.02	26.34	5.33	9623.13	18.20	8.61	0.07	-162.50
Last 5	10:40:09	3000.02	26.23	5.31	9630.20	8.64	8.62	0.06	-162.87
Last 5	10:45:09	3299.98	26.36	5.32	9605.87	7.90	8.63	0.06	-163.73
Last 5	10:50:09	3599.98	26.35	5.31	9602.70	8.67	8.64	0.06	-163.23
Variance 0			-0.11	-0.02	7.07			-0.00	-0.36
Variance 1			0.13	0.01	-24.33			-0.00	-0.86
Variance 2			-0.01	-0.02	-3.17			-0.00	0.50

Notes

Sample time 1052. Sunny 54.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-21 17:27:44

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-11	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	30 in
Depth to Water	10.24 ft	Total Volume Pumped	70 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	17:03:36	9309.93	26.69	6.27	6683.64	17.00	12.84	0.08	-228.34
Last 5	17:08:36	9609.89	26.82	6.10	7194.01	14.10	12.84	0.08	-217.00
Last 5	17:13:36	9909.89	26.83	6.29	6623.04	14.60	12.84	0.08	-229.49
Last 5	17:18:36	10209.89	26.79	6.28	6647.98	14.40	12.84	0.08	-227.41
Last 5	17:23:36	10509.89	26.87	6.28	6606.89	14.60	12.84	0.08	-224.76
Variance 0			0.01	0.19	-570.97			-0.00	-12.49
Variance 1			-0.04	-0.01	24.94			-0.00	2.08
Variance 2			0.08	0.00	-41.09			-0.00	2.64

Notes

Sample time 1725. Dup-02 fake sample time 1625. Sunny 65.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-22 15:01:29

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	38.0 ft

Well Information:		Pumping Information:	
Well ID	MW-13	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	51 in
Depth to Water	14.97 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	14:39:01	900.02	26.79	6.91	14465.96	0.66	18.60	0.15	-340.59
Last 5	14:44:01	1200.02	26.83	6.90	14519.82	0.59	18.92	0.17	-342.35
Last 5	14:49:01	1500.02	26.74	6.89	14592.88	0.48	19.14	0.14	-343.61
Last 5	14:54:01	1800.02	26.74	6.89	14717.11	0.41	19.25	0.05	-345.48
Last 5	14:59:04	2103.02	26.71	6.88	14648.68	0.42	19.31	0.04	-344.72
Variance 0			-0.09	-0.01	73.07			-0.03	-1.26
Variance 1			-0.00	-0.00	124.22			-0.09	-1.87
Variance 2			-0.03	-0.01	-68.43			-0.01	0.76

Notes

Sample time 1501. EB-01 sample time 1405. Sunny 61.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-22 18:52:18

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	43 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	36.0 ft

Well Information:		Pumping Information:	
Well ID	MW-14	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2819272 L
Well Total Depth	41 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9 in
Depth to Water	22.76 ft	Total Volume Pumped	16 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	18:29:46	1200.02	25.27	6.87	7268.91	0.78	23.62	0.09	-303.73
Last 5	18:34:46	1500.02	24.96	6.87	7302.88	0.59	23.61	0.08	-304.09
Last 5	18:39:46	1799.96	24.83	6.87	7291.03	0.68	23.61	0.08	-304.09
Last 5	18:44:46	2099.95	24.73	6.87	7299.29	0.55	23.61	0.08	-304.21
Last 5	18:49:46	2399.96	24.69	6.87	7350.05	0.52	23.61	0.08	-304.03
Variance 0			-0.13	-0.00	-11.85			-0.00	-0.01
Variance 1			-0.10	-0.00	8.26			-0.00	-0.12
Variance 2			-0.04	-0.00	50.76			-0.00	0.18

Notes

Sample time 1852. Sunset 60.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-21 09:50:42

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	28 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	21.0 ft

Well Information:		Pumping Information:	
Well ID	MW-02	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2149758 L
Well Total Depth	26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	19 in
Depth to Water	5.37 ft	Total Volume Pumped	38 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	09:27:35	4501.98	22.94	6.63	298.74	12.10	7.06	0.06	-111.58
Last 5	09:32:35	4801.98	23.07	6.64	298.57	13.40	7.07	0.06	-112.04
Last 5	09:37:36	5102.98	23.20	6.66	297.67	11.70	7.07	0.06	-112.26
Last 5	09:42:36	5402.98	23.25	6.67	298.12	10.20	7.07	0.06	-112.65
Last 5	09:47:36	5702.98	23.32	6.68	298.02	11.00	7.07	0.05	-112.77
Variance 0			0.13	0.01	-0.90			0.00	-0.22
Variance 1			0.05	0.01	0.45			0.01	-0.39
Variance 2			0.07	0.01	-0.09			-0.01	-0.11

Notes

Sample time 0951. Sunny 54.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-20 17:22:21

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-03	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3 in
Depth to Water	6.70 ft	Total Volume Pumped	58 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	16:52:25	7200.88	24.29	4.91	49.25	21.10	6.97	0.03	-27.06
Last 5	17:02:25	7800.88	24.28	4.91	49.29	27.90	6.97	0.03	-28.42
Last 5	17:07:25	8100.85	24.28	4.91	49.22	23.40	6.97	0.03	-28.90
Last 5	17:12:25	8400.85	24.26	4.91	49.26	18.20	6.97	0.03	-29.51
Last 5	17:17:25	8700.85	24.33	4.92	49.15	18.90	6.97	0.03	-30.54
Variance 0			-0.00	0.00	-0.07			-0.00	-0.47
Variance 1			-0.02	0.00	0.03			-0.00	-0.61
Variance 2			0.07	0.01	-0.11			0.00	-1.03

Notes

Sample time 1720. Dup-01 fake sample time 1620. Sunny 68.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-20 13:30:22

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	32 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	27.0 ft

Well Information:		Pumping Information:	
Well ID	MW-12	Final Pumping Rate	300 mL/min
Well diameter	2 in	Total System Volume	0.2328295 L
Well Total Depth	32 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	64 in
Depth to Water	9.41 ft	Total Volume Pumped	27 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	13:06:20	4199.58	25.98	6.08	1011.52	12.90	14.61	0.07	-62.77
Last 5	13:11:20	4499.59	25.84	6.07	999.58	12.10	14.68	0.07	-68.82
Last 5	13:16:20	4799.58	26.14	6.06	995.17	10.80	14.78	0.07	-73.79
Last 5	13:21:20	5099.59	26.14	6.06	991.99	11.10	14.84	0.07	-78.17
Last 5	13:26:20	5399.58	26.10	6.05	972.34	11.00	14.84	0.07	-81.85
Variance 0			0.30	-0.01	-4.41			0.00	-4.98
Variance 1			-0.00	-0.01	-3.18			0.00	-4.38
Variance 2			-0.04	-0.01	-19.65			-0.00	-3.67

Notes

Sample time 1329. Sunny 73.

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: 400-151256-1
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/13/2018 1:35:46 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 8
Sample Summary 9
Client Sample Results 10
Definitions 24
Chronicle 25
QC Association 30
QC Sample Results 36
Chain of Custody 48
Receipt Checklists 50
Certification Summary 51

Job ID: 400-151256-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151256-1

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 392227 and analytical batch 393503 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 following samples were diluted to bring the concentration of target analytes within the calibration range: MW-07 (400-151256-5), MW-06 (400-151256-6), MW-10 (400-151256-8), MW-08 (400-151256-12), MW-09 (400-151256-15) and DUP-04 (400-151256-18). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The method blank for preparation batch 393404 and analytical batch 393589 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

General Chemistry
Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 391874 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The method blank for analytical batch 392314 contained chloride 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.

Method(s) SM 4500 Cl- E: The method blank for analytical batch 392343 contained chloride 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.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-12 (400-151256-1), MW-07 (400-151256-5), MW-06 (400-151256-6), MW-10 (400-151256-8), MW-08 (400-151256-12), MW-09 (400-151256-15) and DUP-04 (400-151256-18). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-07 (400-151256-5), MW-06 (400-151256-6), MW-10 (400-151256-8), MW-08 (400-151256-12), MW-09 (400-151256-15) and DUP-04 (400-151256-18). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-12 — Lab Sample ID: 400-151256-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.013		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.072		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	34		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.016		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	510		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	190		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1.8	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.05				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-03 — Lab Sample ID: 400-151256-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.018		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.9		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0024	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.016		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00069	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	12		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	11	V	2.0	0.60	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: 400-151256-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.018		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0023	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.015		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00024	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	54		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	11	V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: MW-02 — Lab Sample ID: 400-151256-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.021		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	45		0.25	0.13	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-02 (Continued) — Lab Sample ID: 400-151256-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0032		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.012		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	150		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	9.3	V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.28		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Field pH	6.68				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-07 — Lab Sample ID: 400-151256-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0014		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.061		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium	0.0013	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0023	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0058	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00062	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	3.0		0.25	0.11	mg/L	25		6020	Total Recoverable
Calcium - DL	200		1.3	0.63	mg/L	25		6020	Total Recoverable
Total Dissolved Solids	3400		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	1300		80	24	mg/L	40		SM 4500 Cl- E	Total/NA
Sulfate	720		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.26				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-06 — Lab Sample ID: 400-151256-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00048	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.060		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0014	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.019		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00037	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	8.6		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	290		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	5400		25	17	mg/L	1		SM 2540C	Total/NA
Chloride	2900		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	530		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	5.3				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-10 — Lab Sample ID: 400-151256-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0034		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.10		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.00039	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.0065		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0018	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	11		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	510		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	6800		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2700		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Sulfate	810		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	5.31				SU	1		Field Sampling	Total/NA

Client Sample ID: FB-01 — Lab Sample ID: 400-151256-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0015	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00045	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Chloride	0.81	I V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 400-151256-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0014	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Chloride	0.96	I V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: MW-08 — Lab Sample ID: 400-151256-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00097	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.064		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0014	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00030	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	15		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	540		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	8100		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	3200		160	48	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	900		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-08 (Continued) — Lab Sample ID: 400-151256-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field pH	4.61				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-09 — Lab Sample ID: 400-151256-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0022		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.093		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.0056		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0014	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	9.4		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	290		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	1700		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2300		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Sulfate	630		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	6.4				SU	1		Field Sampling	Total/NA

Client Sample ID: EB-02 — Lab Sample ID: 400-151256-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0011	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Chloride	0.90	I V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: FB-02 — Lab Sample ID: 400-151256-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0017	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Chloride	0.74	I V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: DUP-04 — Lab Sample ID: 400-151256-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0022		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.094		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.0056		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0013	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	9.3		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	300		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	2900		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2400		160	48	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	640		100	28	mg/L	20		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151256-1	MW-12	Water	03/20/18 13:29	03/22/18 14:40
400-151256-2	MW-03	Water	03/20/18 17:20	03/22/18 14:40
400-151256-3	DUP-01	Water	03/20/18 16:20	03/22/18 14:40
400-151256-4	MW-02	Water	03/21/18 09:51	03/22/18 14:40
400-151256-5	MW-07	Water	03/21/18 11:46	03/22/18 14:40
400-151256-6	MW-06	Water	03/21/18 13:24	03/22/18 14:40
400-151256-8	MW-10	Water	03/22/18 10:52	03/22/18 14:40
400-151256-10	FB-01	Water	03/22/18 13:20	03/23/18 17:05
400-151256-11	EB-01	Water	03/22/18 14:05	03/23/18 17:05
400-151256-12	MW-08	Water	03/22/18 16:40	03/23/18 17:05
400-151256-15	MW-09	Water	03/23/18 09:02	03/23/18 17:05
400-151256-16	EB-02	Water	03/23/18 08:05	03/23/18 17:05
400-151256-17	FB-02	Water	03/23/18 07:55	03/23/18 17:05
400-151256-18	DUP-04	Water	03/23/18 08:02	03/23/18 17:05

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-12

Date Collected: 03/20/18 13:29
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 20:34	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 20:34	5
Barium	**0.013**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 20:34	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:34	5
Boron	**0.072**		0.050	0.021	mg/L		03/31/18 13:33	04/10/18 20:34	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:34	5
Calcium	**34**		0.25	0.13	mg/L		03/31/18 13:33	04/10/18 20:34	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 20:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 20:34	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 20:34	5
Lithium	**0.016**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 20:34	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 20:34	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 20:34	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 20:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/31/18 15:08	04/03/18 17:10	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**510**		5.0	3.4	mg/L			03/24/18 17:50	1
Chloride	**190**		10	3.0	mg/L			04/02/18 10:24	5
Fluoride	**0.12**		0.10	0.032	mg/L			03/28/18 14:18	1
Sulfate	**1.8**	**I**	5.0	1.4	mg/L			03/26/18 08:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.05**				SU			03/20/18 13:29	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-03

Date Collected: 03/20/18 17:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 20:57	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 20:57	5
Barium	**0.018**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 20:57	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:57	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 20:57	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:57	5
Calcium	**1.9**		0.25	0.13	mg/L		03/31/18 13:33	04/10/18 20:57	5
Chromium	**0.0024**	**I**	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 20:57	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 20:57	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 20:57	5
Lithium	**0.016**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 20:57	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 20:57	5
Selenium	**0.00069**	**I**	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 20:57	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 20:57	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/31/18 15:08	04/03/18 17:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**12**		5.0	3.4	mg/L			03/24/18 17:50	1
Chloride	**11**	**V**	2.0	0.60	mg/L			04/02/18 11:09	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/28/18 14:22	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/26/18 08:23	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.92**				SU			03/20/18 17:20	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: DUP-01

Date Collected: 03/20/18 16:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 21:01	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 21:01	5
Barium	**0.018**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 21:01	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 21:01	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 21:01	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 21:01	5
Calcium	**1.8**		0.25	0.13	mg/L		03/31/18 13:33	04/10/18 21:01	5
Chromium	**0.0023**	**I**	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 21:01	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 21:01	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 21:01	5
Lithium	**0.015**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 21:01	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 21:01	5
Selenium	**0.00024**	**I**	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 21:01	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 21:01	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/31/18 15:08	04/03/18 17:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**54**		5.0	3.4	mg/L			03/24/18 17:50	1
Chloride	**11**	**V**	2.0	0.60	mg/L			04/02/18 11:09	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/28/18 14:26	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/26/18 08:23	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-02

Date Collected: 03/21/18 09:51
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 21:06	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 21:06	5
Barium	**0.021**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 21:06	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 21:06	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 21:06	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 21:06	5
Calcium	**45**		0.25	0.13	mg/L		03/31/18 13:33	04/10/18 21:06	5
Chromium	**0.0032**		0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 21:06	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 21:06	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 21:06	5
Lithium	**0.012**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 21:06	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 21:06	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 21:06	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 21:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 09:56	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**150**		5.0	3.4	mg/L			03/26/18 12:25	1
Chloride	**9.3**	**V**	2.0	0.60	mg/L			04/02/18 11:11	1
Fluoride	**0.28**		0.10	0.032	mg/L			03/28/18 14:30	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/27/18 06:54	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.68**				SU			03/21/18 09:51	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-07

Date Collected: 03/21/18 11:46
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 22:40	5
Arsenic	**0.0014**		0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 22:40	5
Barium	**0.061**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 22:40	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 22:40	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 22:40	5
Chromium	**0.0013**	**I**	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 22:40	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 22:40	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 22:40	5
Lithium	**0.0023**	**I**	0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 22:40	5
Molybdenum	**0.0058**	**I**	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 22:40	5
Selenium	**0.00062**	**I**	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 22:40	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 22:40	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.0**		0.25	0.11	mg/L		03/31/18 13:33	04/10/18 21:33	25
Calcium	**200**		1.3	0.63	mg/L		03/31/18 13:33	04/10/18 21:33	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 09:58	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3400**		50	34	mg/L			03/26/18 12:25	1
Chloride	**1300**		80	24	mg/L			04/02/18 11:47	40
Fluoride	0.032	U	0.10	0.032	mg/L			03/28/18 14:42	1
Sulfate	**720**		150	42	mg/L			03/27/18 07:01	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.26**				SU			03/21/18 11:46	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-06

Date Collected: 03/21/18 13:24
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 22:45	5
Arsenic	**0.00048**	**I**	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 22:45	5
Barium	**0.060**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 22:45	5
Beryllium	**0.0014**	**I**	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 22:45	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 22:45	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 22:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 22:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 22:45	5
Lithium	**0.019**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 22:45	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 22:45	5
Selenium	**0.00037**	**I**	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 22:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 22:45	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**8.6**		1.0	0.42	mg/L		03/31/18 13:33	04/10/18 21:37	100
Calcium	**290**		5.0	2.5	mg/L		03/31/18 13:33	04/10/18 21:37	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 10:00	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5400**		25	17	mg/L			03/27/18 13:42	1
Chloride	**2900**		120	36	mg/L			04/02/18 12:12	60
Fluoride	**0.050**	**I**	0.10	0.032	mg/L			03/28/18 14:50	1
Sulfate	**530**		100	28	mg/L			03/27/18 07:39	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.3**				SU			03/21/18 13:24	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-10

Date Collected: 03/22/18 10:52
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 22:54	5
Arsenic	**0.0034**		0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 22:54	5
Barium	**0.10**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 22:54	5
Beryllium	**0.00039**	**I**	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 22:54	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 22:54	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 22:54	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 22:54	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 22:54	5
Lithium	**0.0065**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 22:54	5
Molybdenum	**0.0018**	**I**	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 22:54	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 22:54	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 22:54	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**11**		2.0	0.84	mg/L		03/31/18 13:33	04/10/18 21:46	200
Calcium	**510**		10	5.0	mg/L		03/31/18 13:33	04/10/18 21:46	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 10:35	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6800**		50	34	mg/L			03/27/18 13:11	1
Chloride	**2700**		120	36	mg/L			04/02/18 12:12	60
Fluoride	0.032	U	0.10	0.032	mg/L			03/28/18 14:58	1
Sulfate	**810**		150	42	mg/L			03/27/18 07:47	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.31**				SU			03/22/18 10:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: FB-01

Date Collected: 03/22/18 13:20
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 19:58	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 19:58	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 19:58	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 19:58	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 19:58	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 19:58	5
Calcium	0.13	U	0.25	0.13	mg/L		03/31/18 13:33	04/10/18 19:58	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 19:58	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 19:58	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 19:58	5
Lithium	**0.0015**	**I**	0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 19:58	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 19:58	5
Selenium	**0.00045**	**I**	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 19:58	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 19:58	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 10:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/26/18 12:25	1
Chloride	**0.81**	**I V**	2.0	0.60	mg/L			04/02/18 11:09	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 09:58	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/27/18 06:55	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: EB-01

Date Collected: 03/22/18 14:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 20:03	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 20:03	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 20:03	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:03	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 20:03	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:03	5
Calcium	0.13	U	0.25	0.13	mg/L		03/31/18 13:33	04/10/18 20:03	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 20:03	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 20:03	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 20:03	5
Lithium	**0.0014**	**I**	0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 20:03	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 20:03	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 20:03	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 20:03	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 10:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 13:11	1
Chloride	**0.96**	**I V**	2.0	0.60	mg/L			04/02/18 11:11	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 10:31	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/27/18 06:55	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-08

Date Collected: 03/22/18 16:40
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 23:03	5
Arsenic	**0.00097**	**I**	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 23:03	5
Barium	**0.064**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 23:03	5
Beryllium	**0.0014**	**I**	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 23:03	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 23:03	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 23:03	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 23:03	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 23:03	5
Lithium	**0.011**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 23:03	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 23:03	5
Selenium	**0.00030**	**I**	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 23:03	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 23:03	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**15**		1.0	0.42	mg/L		03/31/18 13:33	04/10/18 21:55	100
Calcium	**540**		5.0	2.5	mg/L		03/31/18 13:33	04/10/18 21:55	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 10:35	04/12/18 10:42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8100**		50	34	mg/L			03/27/18 13:11	1
Chloride	**3200**		160	48	mg/L			04/02/18 12:12	80
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 10:35	1
Sulfate	**900**		150	42	mg/L			03/27/18 07:47	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.61**				SU			03/22/18 16:40	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-09

Date Collected: 03/23/18 09:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 23:16	5
Arsenic	**0.0022**		0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 23:16	5
Barium	**0.093**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 23:16	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 23:16	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 23:16	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 23:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 23:16	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 23:16	5
Lithium	**0.0056**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 23:16	5
Molybdenum	**0.0014**	**I**	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 23:16	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 23:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 23:16	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**9.4**		1.0	0.42	mg/L		03/31/18 13:33	04/10/18 22:09	100
Calcium	**290**		5.0	2.5	mg/L		03/31/18 13:33	04/10/18 22:09	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1700**		50	34	mg/L			03/27/18 12:35	1
Chloride	**2300**		120	36	mg/L			04/02/18 12:14	60
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 12:50	1
Sulfate	**630**		100	28	mg/L			04/03/18 10:25	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.4**				SU			03/23/18 09:02	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: EB-02

Date Collected: 03/23/18 08:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 20:07	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 20:07	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 20:07	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:07	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 20:07	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:07	5
Calcium	0.13	U	0.25	0.13	mg/L		03/31/18 13:33	04/10/18 20:07	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 20:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 20:07	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 20:07	5
Lithium	**0.0011**	**I**	0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 20:07	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 20:07	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 20:07	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 20:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 12:35	1
Chloride	**0.90**	**I V**	2.0	0.60	mg/L			04/02/18 11:11	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 12:54	1
Sulfate	1.4	U	5.0	1.4	mg/L			04/03/18 09:55	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: FB-02

Date Collected: 03/23/18 07:55
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-17

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 20:12	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 20:12	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 20:12	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:12	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 20:12	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 20:12	5
Calcium	0.13	U	0.25	0.13	mg/L		03/31/18 13:33	04/10/18 20:12	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 20:12	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 20:12	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 20:12	5
Lithium	**0.0017**	**I**	0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 20:12	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 20:12	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 20:12	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 20:12	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 12:35	1
Chloride	**0.74**	**I V**	2.0	0.60	mg/L			04/02/18 11:11	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 12:57	1
Sulfate	1.4	U	5.0	1.4	mg/L			04/03/18 09:55	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: DUP-04

Date Collected: 03/23/18 08:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-18

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 23:21	5
Arsenic	**0.0022**		0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 23:21	5
Barium	**0.094**		0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 23:21	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 23:21	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 23:21	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 23:21	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 23:21	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 23:21	5
Lithium	**0.0056**		0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 23:21	5
Molybdenum	**0.0013**	**I**	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 23:21	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 23:21	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 23:21	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**9.3**		1.0	0.42	mg/L		03/31/18 13:33	04/10/18 22:13	100
Calcium	**300**		5.0	2.5	mg/L		03/31/18 13:33	04/10/18 22:13	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:17	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2900**		50	34	mg/L			03/27/18 12:35	1
Chloride	**2400**		160	48	mg/L			04/04/18 09:42	80
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 13:01	1
Sulfate	**640**		100	28	mg/L			04/03/18 10:27	20

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-12
Date Collected: 03/20/18 13:29
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 20:34	DRE	TAL PEN
Total/NA	Prep	7470A			392228	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392577	04/03/18 17:10	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391316	03/24/18 17:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	392314	04/02/18 10:24	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:18	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391402	03/26/18 08:23	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/20/18 13:29	AW	TAL PEN

Client Sample ID: MW-03
Date Collected: 03/20/18 17:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 20:57	DRE	TAL PEN
Total/NA	Prep	7470A			392228	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392577	04/03/18 17:12	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391316	03/24/18 17:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:09	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:22	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391402	03/26/18 08:23	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/20/18 17:20	AW	TAL PEN

Client Sample ID: DUP-01
Date Collected: 03/20/18 16:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 21:01	DRE	TAL PEN
Total/NA	Prep	7470A			392228	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392577	04/03/18 17:14	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391316	03/24/18 17:50	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:09	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:26	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391402	03/26/18 08:23	RRC	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-02
Date Collected: 03/21/18 09:51
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 21:06	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 09:56	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391438	03/26/18 12:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:30	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391563	03/27/18 06:54	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/21/18 09:51	AW	TAL PEN

Client Sample ID: MW-07
Date Collected: 03/21/18 11:46
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	25	393503	04/10/18 21:33	DRE	TAL PEN
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 22:40	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 09:58	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391438	03/26/18 12:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		40	392343	04/02/18 11:47	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:42	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	391563	03/27/18 07:01	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/21/18 11:46	AW	TAL PEN

Client Sample ID: MW-06
Date Collected: 03/21/18 13:24
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	100	393503	04/10/18 21:37	DRE	TAL PEN
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 22:45	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 10:00	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391578	03/27/18 13:42	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	392343	04/02/18 12:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	391563	03/27/18 07:39	RRC	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: MW-06 — Lab Sample ID: 400-151256-6

Date Collected: 03/21/18 13:24 — **Matrix: Water**
Date Received: 03/22/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	393575	03/21/18 13:24	AW	TAL PEN

Client Sample ID: MW-10 — Lab Sample ID: 400-151256-8

Date Collected: 03/22/18 10:52 — **Matrix: Water**
Date Received: 03/22/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	200	393503	04/10/18 21:46	DRE	TAL PEN
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 22:54	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 10:35	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391575	03/27/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	392343	04/02/18 12:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391874	03/28/18 14:58	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	391563	03/27/18 07:47	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/22/18 10:52	AW	TAL PEN

Client Sample ID: FB-01 — Lab Sample ID: 400-151256-10

Date Collected: 03/22/18 13:20 — **Matrix: Water**
Date Received: 03/23/18 17:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 19:58	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 10:39	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391438	03/26/18 12:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:09	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392128	03/30/18 09:58	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391563	03/27/18 06:55	RRC	TAL PEN

Client Sample ID: EB-01 — Lab Sample ID: 400-151256-11

Date Collected: 03/22/18 14:05 — **Matrix: Water**
Date Received: 03/23/18 17:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 20:03	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 10:41	JAP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: EB-01
Date Collected: 03/22/18 14:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	391575	03/27/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392128	03/30/18 10:31	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391563	03/27/18 06:55	RRC	TAL PEN

Client Sample ID: MW-08
Date Collected: 03/22/18 16:40
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	100	393503	04/10/18 21:55	DRE	TAL PEN
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 23:03	DRE	TAL PEN
Total/NA	Prep	7470A			393327	04/10/18 10:35	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 10:42	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391575	03/27/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	392343	04/02/18 12:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392128	03/30/18 10:35	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	391563	03/27/18 07:47	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/22/18 16:40	AW	TAL PEN

Client Sample ID: MW-09
Date Collected: 03/23/18 09:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	100	393503	04/10/18 22:09	DRE	TAL PEN
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 23:16	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:12	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391566	03/27/18 12:35	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	392343	04/02/18 12:14	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392160	03/30/18 12:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	392490	04/03/18 10:25	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/23/18 09:02	AW	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Client Sample ID: EB-02
Date Collected: 03/23/18 08:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 20:07	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:13	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391566	03/27/18 12:35	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392160	03/30/18 12:54	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	392490	04/03/18 09:55	RRC	TAL PEN

Client Sample ID: FB-02
Date Collected: 03/23/18 07:55
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 20:12	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:15	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391566	03/27/18 12:35	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392343	04/02/18 11:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392160	03/30/18 12:57	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	392490	04/03/18 09:55	RRC	TAL PEN

Client Sample ID: DUP-04
Date Collected: 03/23/18 08:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	100	393503	04/10/18 22:13	DRE	TAL PEN
Total Recoverable	Prep	3005A			392227	03/31/18 13:33	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393503	04/10/18 23:21	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:17	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391566	03/27/18 12:35	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	392625	04/04/18 09:42	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392160	03/30/18 13:01	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	392490	04/03/18 10:27	RRC	TAL PEN

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Metals

Prep Batch: 392227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total Recoverable	Water	3005A	
400-151256-2	MW-03	Total Recoverable	Water	3005A	
400-151256-3	DUP-01	Total Recoverable	Water	3005A	
400-151256-4	MW-02	Total Recoverable	Water	3005A	
400-151256-5 - DL	MW-07	Total Recoverable	Water	3005A	
400-151256-5	MW-07	Total Recoverable	Water	3005A	
400-151256-6	MW-06	Total Recoverable	Water	3005A	
400-151256-6 - DL	MW-06	Total Recoverable	Water	3005A	
400-151256-8 - DL	MW-10	Total Recoverable	Water	3005A	
400-151256-8	MW-10	Total Recoverable	Water	3005A	
400-151256-10	FB-01	Total Recoverable	Water	3005A	
400-151256-11	EB-01	Total Recoverable	Water	3005A	
400-151256-12 - DL	MW-08	Total Recoverable	Water	3005A	
400-151256-12	MW-08	Total Recoverable	Water	3005A	
400-151256-15 - DL	MW-09	Total Recoverable	Water	3005A	
400-151256-15	MW-09	Total Recoverable	Water	3005A	
400-151256-16	EB-02	Total Recoverable	Water	3005A	
400-151256-17	FB-02	Total Recoverable	Water	3005A	
400-151256-18	DUP-04	Total Recoverable	Water	3005A	
400-151256-18 - DL	DUP-04	Total Recoverable	Water	3005A	
MB 400-392227/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-392227/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151256-1 MS	MW-12	Total Recoverable	Water	3005A	
400-151256-1 MSD	MW-12	Total Recoverable	Water	3005A	

Prep Batch: 392228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	7470A	
400-151256-2	MW-03	Total/NA	Water	7470A	
400-151256-3	DUP-01	Total/NA	Water	7470A	
MB 400-392228/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-392228/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151258-B-3-C MS	Matrix Spike	Total/NA	Water	7470A	
400-151258-B-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 392577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	7470A	392228
400-151256-2	MW-03	Total/NA	Water	7470A	392228
400-151256-3	DUP-01	Total/NA	Water	7470A	392228
MB 400-392228/14-A	Method Blank	Total/NA	Water	7470A	392228
LCS 400-392228/15-A	Lab Control Sample	Total/NA	Water	7470A	392228
400-151258-B-3-C MS	Matrix Spike	Total/NA	Water	7470A	392228
400-151258-B-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	392228

Prep Batch: 393327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-4	MW-02	Total/NA	Water	7470A	
400-151256-5	MW-07	Total/NA	Water	7470A	
400-151256-6	MW-06	Total/NA	Water	7470A	
400-151256-8	MW-10	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 393327 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-10	FB-01	Total/NA	Water	7470A	
400-151256-11	EB-01	Total/NA	Water	7470A	
400-151256-12	MW-08	Total/NA	Water	7470A	
MB 400-393327/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393327/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151810-D-1-B MS	Matrix Spike	Total/NA	Water	7470A	
400-151810-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 393404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-15	MW-09	Total/NA	Water	7470A	
400-151256-16	EB-02	Total/NA	Water	7470A	
400-151256-17	FB-02	Total/NA	Water	7470A	
400-151256-18	DUP-04	Total/NA	Water	7470A	
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151280-B-1-C MS	Matrix Spike	Total/NA	Water	7470A	
400-151280-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 393503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total Recoverable	Water	6020	392227
400-151256-2	MW-03	Total Recoverable	Water	6020	392227
400-151256-3	DUP-01	Total Recoverable	Water	6020	392227
400-151256-4	MW-02	Total Recoverable	Water	6020	392227
400-151256-5 - DL	MW-07	Total Recoverable	Water	6020	392227
400-151256-5	MW-07	Total Recoverable	Water	6020	392227
400-151256-6 - DL	MW-06	Total Recoverable	Water	6020	392227
400-151256-6	MW-06	Total Recoverable	Water	6020	392227
400-151256-8 - DL	MW-10	Total Recoverable	Water	6020	392227
400-151256-8	MW-10	Total Recoverable	Water	6020	392227
400-151256-10	FB-01	Total Recoverable	Water	6020	392227
400-151256-11	EB-01	Total Recoverable	Water	6020	392227
400-151256-12 - DL	MW-08	Total Recoverable	Water	6020	392227
400-151256-12	MW-08	Total Recoverable	Water	6020	392227
400-151256-15 - DL	MW-09	Total Recoverable	Water	6020	392227
400-151256-15	MW-09	Total Recoverable	Water	6020	392227
400-151256-16	EB-02	Total Recoverable	Water	6020	392227
400-151256-17	FB-02	Total Recoverable	Water	6020	392227
400-151256-18 - DL	DUP-04	Total Recoverable	Water	6020	392227
400-151256-18	DUP-04	Total Recoverable	Water	6020	392227
MB 400-392227/1-A ^5	Method Blank	Total Recoverable	Water	6020	392227
LCS 400-392227/2-A	Lab Control Sample	Total Recoverable	Water	6020	392227
400-151256-1 MS	MW-12	Total Recoverable	Water	6020	392227
400-151256-1 MSD	MW-12	Total Recoverable	Water	6020	392227

Analysis Batch: 393589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-15	MW-09	Total/NA	Water	7470A	393404
400-151256-16	EB-02	Total/NA	Water	7470A	393404
400-151256-17	FB-02	Total/NA	Water	7470A	393404

Metals (Continued)

Analysis Batch: 393589 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-18	DUP-04	Total/NA	Water	7470A	393404
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	393404
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	393404
400-151280-B-1-C MS	Matrix Spike	Total/NA	Water	7470A	393404
400-151280-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393404

Analysis Batch: 393751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-4	MW-02	Total/NA	Water	7470A	393327
400-151256-5	MW-07	Total/NA	Water	7470A	393327
400-151256-6	MW-06	Total/NA	Water	7470A	393327
400-151256-8	MW-10	Total/NA	Water	7470A	393327
400-151256-10	FB-01	Total/NA	Water	7470A	393327
400-151256-11	EB-01	Total/NA	Water	7470A	393327
400-151256-12	MW-08	Total/NA	Water	7470A	393327
MB 400-393327/14-A	Method Blank	Total/NA	Water	7470A	393327
LCS 400-393327/15-A	Lab Control Sample	Total/NA	Water	7470A	393327
400-151810-D-1-B MS	Matrix Spike	Total/NA	Water	7470A	393327
400-151810-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393327

General Chemistry

Analysis Batch: 391316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	SM 2540C	
400-151256-2	MW-03	Total/NA	Water	SM 2540C	
400-151256-3	DUP-01	Total/NA	Water	SM 2540C	
MB 400-391316/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391316/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151170-A-9 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 391402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	SM 4500 SO4 E	
400-151256-2	MW-03	Total/NA	Water	SM 4500 SO4 E	
400-151256-3	DUP-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-391402/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-391402/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-391402/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-151248-G-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151248-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 391438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-4	MW-02	Total/NA	Water	SM 2540C	
400-151256-5	MW-07	Total/NA	Water	SM 2540C	
400-151256-10	FB-01	Total/NA	Water	SM 2540C	
MB 400-391438/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391438/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151189-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 391438 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151191-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 391563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-4	MW-02	Total/NA	Water	SM 4500 SO4 E	
400-151256-5	MW-07	Total/NA	Water	SM 4500 SO4 E	
400-151256-6	MW-06	Total/NA	Water	SM 4500 SO4 E	
400-151256-8	MW-10	Total/NA	Water	SM 4500 SO4 E	
400-151256-10	FB-01	Total/NA	Water	SM 4500 SO4 E	
400-151256-11	EB-01	Total/NA	Water	SM 4500 SO4 E	
400-151256-12	MW-08	Total/NA	Water	SM 4500 SO4 E	
MB 400-391563/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-391563/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-391563/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-150822-G-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-150822-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	
400-151209-G-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151209-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 391566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-15	MW-09	Total/NA	Water	SM 2540C	
400-151256-16	EB-02	Total/NA	Water	SM 2540C	
400-151256-17	FB-02	Total/NA	Water	SM 2540C	
400-151256-18	DUP-04	Total/NA	Water	SM 2540C	
MB 400-391566/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391566/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151138-B-47 DU	Duplicate	Total/NA	Water	SM 2540C	
400-151322-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 391575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-8	MW-10	Total/NA	Water	SM 2540C	
400-151256-11	EB-01	Total/NA	Water	SM 2540C	
400-151256-12	MW-08	Total/NA	Water	SM 2540C	
MB 400-391575/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391575/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151170-A-23 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 391578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-6	MW-06	Total/NA	Water	SM 2540C	
MB 400-391578/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391578/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151322-A-6 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 391874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	SM 4500 F C	
400-151256-2	MW-03	Total/NA	Water	SM 4500 F C	
400-151256-3	DUP-01	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 391874 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-4	MW-02	Total/NA	Water	SM 4500 F C	
400-151256-5	MW-07	Total/NA	Water	SM 4500 F C	
400-151256-6	MW-06	Total/NA	Water	SM 4500 F C	
400-151256-8	MW-10	Total/NA	Water	SM 4500 F C	
MB 400-391874/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-391874/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-150860-A-7 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-150860-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-151256-5 DU	MW-07	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-10	FB-01	Total/NA	Water	SM 4500 F C	
400-151256-11	EB-01	Total/NA	Water	SM 4500 F C	
400-151256-12	MW-08	Total/NA	Water	SM 4500 F C	
MB 400-392128/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-392128/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
660-86263-C-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
660-86263-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
660-86302-C-3 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-15	MW-09	Total/NA	Water	SM 4500 F C	
400-151256-16	EB-02	Total/NA	Water	SM 4500 F C	
400-151256-17	FB-02	Total/NA	Water	SM 4500 F C	
400-151256-18	DUP-04	Total/NA	Water	SM 4500 F C	
MB 400-392160/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-392160/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-151514-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-151514-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-151335-B-2 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	SM 4500 Cl- E	
MB 400-392314/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392314/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392314/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-150861-A-7 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-150861-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 392343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-2	MW-03	Total/NA	Water	SM 4500 Cl- E	
400-151256-3	DUP-01	Total/NA	Water	SM 4500 Cl- E	
400-151256-4	MW-02	Total/NA	Water	SM 4500 Cl- E	
400-151256-5	MW-07	Total/NA	Water	SM 4500 Cl- E	
400-151256-6	MW-06	Total/NA	Water	SM 4500 Cl- E	
400-151256-8	MW-10	Total/NA	Water	SM 4500 Cl- E	
400-151256-10	FB-01	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 392343 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-11	EB-01	Total/NA	Water	SM 4500 Cl- E	
400-151256-12	MW-08	Total/NA	Water	SM 4500 Cl- E	
400-151256-15	MW-09	Total/NA	Water	SM 4500 Cl- E	
400-151256-16	EB-02	Total/NA	Water	SM 4500 Cl- E	
400-151256-17	FB-02	Total/NA	Water	SM 4500 Cl- E	
MB 400-392343/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392343/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392343/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-151256-2 MS	MW-03	Total/NA	Water	SM 4500 Cl- E	
400-151256-2 MSD	MW-03	Total/NA	Water	SM 4500 Cl- E	
400-151256-4 MS	MW-02	Total/NA	Water	SM 4500 Cl- E	
400-151256-4 MSD	MW-02	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 392490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-15	MW-09	Total/NA	Water	SM 4500 SO4 E	
400-151256-16	EB-02	Total/NA	Water	SM 4500 SO4 E	
400-151256-17	FB-02	Total/NA	Water	SM 4500 SO4 E	
400-151256-18	DUP-04	Total/NA	Water	SM 4500 SO4 E	
MB 400-392490/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-392490/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-392490/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-151335-B-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151335-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 392625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-18	DUP-04	Total/NA	Water	SM 4500 Cl- E	
MB 400-392625/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392625/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392625/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-151496-C-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-151496-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Field Service / Mobile Lab

Analysis Batch: 393575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	Field Sampling	
400-151256-2	MW-03	Total/NA	Water	Field Sampling	
400-151256-4	MW-02	Total/NA	Water	Field Sampling	
400-151256-5	MW-07	Total/NA	Water	Field Sampling	
400-151256-6	MW-06	Total/NA	Water	Field Sampling	
400-151256-8	MW-10	Total/NA	Water	Field Sampling	
400-151256-12	MW-08	Total/NA	Water	Field Sampling	
400-151256-15	MW-09	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-392227/1-A ^5
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392227

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/31/18 13:33	04/10/18 19:45	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/31/18 13:33	04/10/18 19:45	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/31/18 13:33	04/10/18 19:45	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 19:45	5
Boron	0.021	U	0.050	0.021	mg/L		03/31/18 13:33	04/10/18 19:45	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/31/18 13:33	04/10/18 19:45	5
Calcium	0.13	U	0.25	0.13	mg/L		03/31/18 13:33	04/10/18 19:45	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/31/18 13:33	04/10/18 19:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/31/18 13:33	04/10/18 19:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/31/18 13:33	04/10/18 19:45	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/31/18 13:33	04/10/18 19:45	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/31/18 13:33	04/10/18 19:45	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/31/18 13:33	04/10/18 19:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/31/18 13:33	04/10/18 19:45	5

Lab Sample ID: LCS 400-392227/2-A
Matrix: Water
Analysis Batch: 393503

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392227

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0510		mg/L		102	80 - 120
Arsenic	0.0500	0.0486		mg/L		97	80 - 120
Barium	0.0500	0.0499		mg/L		100	80 - 120
Beryllium	0.0500	0.0495		mg/L		99	80 - 120
Boron	0.100	0.0997		mg/L		100	80 - 120
Cadmium	0.0500	0.0503		mg/L		101	80 - 120
Calcium	5.00	5.00		mg/L		100	80 - 120
Chromium	0.0500	0.0504		mg/L		101	80 - 120
Cobalt	0.0500	0.0505		mg/L		101	80 - 120
Lead	0.0500	0.0495		mg/L		99	80 - 120
Lithium	0.0500	0.0478		mg/L		96	80 - 120
Molybdenum	0.0500	0.0499		mg/L		100	80 - 120
Selenium	0.0500	0.0481		mg/L		96	80 - 120
Thallium	0.0100	0.00984		mg/L		98	80 - 120

Lab Sample ID: 400-151256-1 MS
Matrix: Water
Analysis Batch: 393503

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 392227

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0528		mg/L		106	75 - 125
Arsenic	0.00046	U	0.0500	0.0497		mg/L		99	75 - 125
Barium	0.013		0.0500	0.0637		mg/L		101	75 - 125
Beryllium	0.00034	U	0.0500	0.0512		mg/L		102	75 - 125
Boron	0.072		0.100	0.186		mg/L		113	75 - 125
Cadmium	0.00034	U	0.0500	0.0506		mg/L		101	75 - 125
Calcium	34		5.00	39.1		mg/L		98	75 - 125
Chromium	0.0011	U	0.0500	0.0512		mg/L		102	75 - 125

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

Lab Sample ID: 400-151256-1 MS — **Client Sample ID: MW-12**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393503 — **Prep Batch: 392227**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	U	0.0500	0.0515		mg/L		103	75 - 125
Lead	0.00035	U	0.0500	0.0489		mg/L		98	75 - 125
Lithium	0.016		0.0500	0.0824	J3	mg/L		132	75 - 125
Molybdenum	0.00085	U	0.0500	0.0493		mg/L		99	75 - 125
Selenium	0.00024	U	0.0500	0.0494		mg/L		99	75 - 125
Thallium	0.000085	U	0.0100	0.00995		mg/L		100	75 - 125

Lab Sample ID: 400-151256-1 MSD — **Client Sample ID: MW-12**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393503 — **Prep Batch: 392227**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0010	U	0.0500	0.0523		mg/L		105	75 - 125	1	20
Arsenic	0.00046	U	0.0500	0.0499		mg/L		100	75 - 125	0	20
Barium	0.013		0.0500	0.0648		mg/L		104	75 - 125	2	20
Beryllium	0.00034	U	0.0500	0.0498		mg/L		100	75 - 125	3	20
Boron	0.072		0.100	0.177		mg/L		104	75 - 125	5	20
Cadmium	0.00034	U	0.0500	0.0509		mg/L		102	75 - 125	1	20
Calcium	34		5.00	39.5		mg/L		106	75 - 125	1	20
Chromium	0.0011	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Cobalt	0.00040	U	0.0500	0.0524		mg/L		105	75 - 125	2	20
Lead	0.00035	U	0.0500	0.0480		mg/L		96	75 - 125	2	20
Lithium	0.016		0.0500	0.0778		mg/L		123	75 - 125	6	20
Molybdenum	0.00085	U	0.0500	0.0493		mg/L		99	75 - 125	0	20
Selenium	0.00024	U	0.0500	0.0483		mg/L		97	75 - 125	2	20
Thallium	0.000085	U	0.0100	0.00972		mg/L		97	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-392228/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392577 — **Prep Batch: 392228**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/31/18 15:08	04/03/18 15:10	1

Lab Sample ID: LCS 400-392228/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392577 — **Prep Batch: 392228**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.00107		mg/L		106	80 - 120

Lab Sample ID: 400-151258-B-3-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392577 — **Prep Batch: 392228**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00196		mg/L		97	80 - 120

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Lab Sample ID: 400-151258-B-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392577 — **Prep Batch: 392228**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00205		mg/L		102	80 - 120	5	20

Lab Sample ID: MB 400-393327/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393751 — **Prep Batch: 393327**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 08:55	04/12/18 09:06	1

Lab Sample ID: LCS 400-393327/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393751 — **Prep Batch: 393327**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00101	0.00106		mg/L		105	80 - 120		

Lab Sample ID: 400-151810-D-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393751 — **Prep Batch: 393327**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.000070	U	0.00101	0.000977		mg/L		97	80 - 120		

Lab Sample ID: 400-151810-D-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393751 — **Prep Batch: 393327**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00101	0.000948		mg/L		94	80 - 120	3	20

Lab Sample ID: MB 400-393404/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000777	I	0.00020	0.000070	mg/L		04/10/18 12:08	04/11/18 15:00	1

Lab Sample ID: LCS 400-393404/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00101	0.00101		mg/L		100	80 - 120		

Lab Sample ID: 400-151280-B-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.000070	U	0.00201	0.00198		mg/L		98	80 - 120		

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

Lab Sample ID: 400-151280-B-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00193		mg/L		96	80 - 120	2	20

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

Lab Sample ID: MB 400-391316/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391316

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/24/18 17:50	1

Lab Sample ID: LCS 400-391316/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	274		mg/L		94	78 - 122

Lab Sample ID: 400-151170-A-9 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391316

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	92		92.0		mg/L		0	5

Lab Sample ID: MB 400-391438/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/26/18 12:25	1

Lab Sample ID: LCS 400-391438/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	246		mg/L		84	78 - 122

Lab Sample ID: 400-151189-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3.4	U	3.4	U	mg/L		NC	5

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

Lab Sample ID: 400-151191-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	46			46.0		mg/L				0	5

Lab Sample ID: MB 400-391566/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391566

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 12:35	1

Lab Sample ID: LCS 400-391566/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391566

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			293	246		mg/L		84	78 - 122		

Lab Sample ID: 400-151138-B-47 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391566

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	160			160		mg/L				0	5

Lab Sample ID: 400-151322-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391566

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	210			206		mg/L				0	5

Lab Sample ID: MB 400-391575/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 13:11	1

Lab Sample ID: LCS 400-391575/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			293	280		mg/L		96	78 - 122		

Lab Sample ID: 400-151170-A-23 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	76			76.0		mg/L				0	5

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Lab Sample ID: MB 400-391578/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391578

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 13:42	1

Lab Sample ID: LCS 400-391578/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	268		mg/L		91	78 - 122

Lab Sample ID: 400-151322-A-6 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391578

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	230		228		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-392314/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392314

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.54	I	2.0	0.60	mg/L			04/02/18 09:28	1

Lab Sample ID: LCS 400-392314/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392314

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 400-392314/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392314

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.63		mg/L		131	50 - 150

Lab Sample ID: 400-150861-A-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392314

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.9	V	10.0	17.2		mg/L		103	73 - 120

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

Lab Sample ID: 400-150861-A-7 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392314

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.9	V	10.0	17.1		mg/L		101	73 - 120	1	8

Lab Sample ID: MB 400-392343/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.46	I	2.0	0.60	mg/L			04/02/18 11:09	1
Chloride	1.46	I	2.0	0.60	mg/L			04/02/18 11:09	1

Lab Sample ID: LCS 400-392343/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.9		mg/L		106	90 - 110
Chloride	30.0	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-392343/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.47		mg/L		123	50 - 150
Chloride	2.00	2.47		mg/L		123	50 - 150

Lab Sample ID: 400-151256-2 MS — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	11	V	10.0	21.1		mg/L		102	73 - 120
Chloride	11	V	10.0	21.1		mg/L		102	73 - 120

Lab Sample ID: 400-151256-2 MSD — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	11	V	10.0	21.2		mg/L		103	73 - 120	0	8
Chloride	11	V	10.0	21.2		mg/L		103	73 - 120	0	8

Lab Sample ID: 400-151256-4 MS — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	9.3	V	10.0	19.7		mg/L		104	73 - 120
Chloride	9.3	V	10.0	19.7		mg/L		104	73 - 120

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

Lab Sample ID: 400-151256-4 MSD — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.3	V	10.0	20.7		mg/L		114	73 - 120	5	8
Chloride	9.3	V	10.0	20.7		mg/L		114	73 - 120	5	8

Lab Sample ID: MB 400-392625/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392625

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.24	I	2.0	0.60	mg/L			04/04/18 09:09	1

Lab Sample ID: LCS 400-392625/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	30.7		mg/L		102	90 - 110

Lab Sample ID: MRL 400-392625/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392625

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.66		mg/L		133	50 - 150

Lab Sample ID: 400-151496-C-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392625

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	22		10.0	32.2		mg/L		98	73 - 120

Lab Sample ID: 400-151496-C-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392625

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	22		10.0	32.1		mg/L		97	73 - 120	0	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-391874/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391874

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/28/18 13:36	1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 400-391874/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391874

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 400-150860-A-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.080	I	1.00	0.710	J3	mg/L		63	75 - 125		

Lab Sample ID: 400-150860-A-7 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.080	I	1.00	0.710	J3	mg/L		63	75 - 125	0	4

Lab Sample ID: 400-151256-5 DU — **Client Sample ID: MW-07**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391874

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

Lab Sample ID: MB 400-392128/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 09:27	1

Lab Sample ID: LCS 400-392128/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 660-86263-C-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

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

Lab Sample ID: 660-86263-C-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

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

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: Ash Pond

Lab Sample ID: 660-86302-C-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.14			0.140		mg/L				0	4

Lab Sample ID: MB 400-392160/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 12:29	1

Lab Sample ID: LCS 400-392160/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 400-151514-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.17		1.00	1.26		mg/L		109	75 - 125		

Lab Sample ID: 400-151514-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.17		1.00	1.26		mg/L		109	75 - 125	0	4

Lab Sample ID: 400-151335-B-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-391402/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391402

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			03/26/18 08:09	1

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

Lab Sample ID: LCS 400-391402/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.7		mg/L		98	90 - 110

Lab Sample ID: MRL 400-391402/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391402

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.63	I	mg/L		93	50 - 150

Lab Sample ID: 400-151248-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391402

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	14		10.0	23.5		mg/L		96	77 - 128

Lab Sample ID: 400-151248-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391402

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	14		10.0	23.6		mg/L		97	77 - 128	1	5

Lab Sample ID: MB 400-391563/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			03/27/18 06:47	1

Lab Sample ID: LCS 400-391563/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.8		mg/L		99	90 - 110

Lab Sample ID: MRL 400-391563/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.58	I	mg/L		92	50 - 150

Lab Sample ID: 400-150822-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1.6	I	10.0	1.4	U J3	mg/L		0	77 - 128

Lab Sample ID: 400-150822-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.6	I	10.0	1.4	U J3	mg/L		0	77 - 128	NC	5

Lab Sample ID: 400-151209-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	1.4	U	10.0	10.6		mg/L		106	77 - 128		

Lab Sample ID: 400-151209-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.4	U	10.0	10.8		mg/L		108	77 - 128	2	5

Lab Sample ID: MB 400-392490/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			04/03/18 09:42	1

Lab Sample ID: LCS 400-392490/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.9		mg/L		99	90 - 110		

Lab Sample ID: MRL 400-392490/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.54	I	mg/L		91	50 - 150		

Lab Sample ID: 400-151335-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	6.9		10.0	17.6		mg/L		107	77 - 128		

Lab Sample ID: 400-151335-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	6.9		10.0	17.7		mg/L		107	77 - 128	0	5

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	1 of 2 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-02	3-21-18	0957	G	GW	3			X	X	X		
MW-03	3-20-18	1720	G	GW	3			X	X	X		
MW-06	3-21-18	1324	G	GW	3			X	X	X		
MW-07	3-21-18	1146	G	GW	3			X	X	X		
MW-08	3-22-18	1640	G	GW	3			X	X	X		
MW-09	3-23-18	0902	G	GW	3			X	X	X		
MW-10	3-22-18	1052	G	GW	3			X	X	X		
MW-12	3-20-18	1329	G	GW	3			X	X	X		
DUP-01	3-20-18	1620	G	GW	3			X	X	X		
DUP-04	3-23-18	0802	G	GW	3			X	X	X		
EB-01	3-22-18	1405	G	W	3			X	X	X		
FB-01	3-22-18	1320	G	W	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

4.8°C, 0.0°C, 4.1°C, 0.0°C, 0.0°C, IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by:	Holt Env.	3-23-18 1705	Received by:	TAPen	3/23/18 1705
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	2 of 2 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
EB-02	3-23-18	0805	G	W	3			X	X	X	~~X~~ RDH	
FB-02	3-23-18	0755	G	W	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

4.8°C, 0.0°C, 4.1°C, 0.0°C, 0.0°C IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	RDH Env.	3-23-18 1705		TA Pen	3/23/18 1705
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151256-1
SDG Number: Ash Pond

Login Number: 151256
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C, 0.0°C,4.1°C, 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	

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-1
SDG: 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	06-30-18
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.

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: 400-151256-2
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/20/2018 3:33:55 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Method Summary 3
Sample Summary 4
Client Sample Results 5
Definitions 19
Chronicle 20
QC Association 24
QC Sample Results 25
Chain of Custody 27
Receipt Checklists 29
Certification Summary 32

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151256-1	MW-12	Water	03/20/18 13:29	03/22/18 14:40
400-151256-2	MW-03	Water	03/20/18 17:20	03/22/18 14:40
400-151256-3	DUP-01	Water	03/20/18 16:20	03/22/18 14:40
400-151256-4	MW-02	Water	03/21/18 09:51	03/22/18 14:40
400-151256-5	MW-07	Water	03/21/18 11:46	03/22/18 14:40
400-151256-6	MW-06	Water	03/21/18 13:24	03/22/18 14:40
400-151256-8	MW-10	Water	03/22/18 10:52	03/22/18 14:40
400-151256-10	FB-01	Water	03/22/18 13:20	03/23/18 17:05
400-151256-11	EB-01	Water	03/22/18 14:05	03/23/18 17:05
400-151256-12	MW-08	Water	03/22/18 16:40	03/23/18 17:05
400-151256-15	MW-09	Water	03/23/18 09:02	03/23/18 17:05
400-151256-16	EB-02	Water	03/23/18 08:05	03/23/18 17:05
400-151256-17	FB-02	Water	03/23/18 07:55	03/23/18 17:05
400-151256-18	DUP-04	Water	03/23/18 08:02	03/23/18 17:05

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-12

Date Collected: 03/20/18 13:29
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-1

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	1.45		0.195	0.235	1.00	0.0838	pCi/L	03/28/18 10:18	04/19/18 05:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:54*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.369		0.237	0.240	1.00	0.364	pCi/L	03/28/18 10:53	04/04/18 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:23*	*1*
Y Carrier	*90.5*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:23*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.81		0.307	0.336	5.00	0.364	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-03

Date Collected: 03/20/18 17:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-2

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	1.03		0.168	0.192	1.00	0.0903	pCi/L	03/28/18 10:18	04/19/18 05:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.793		0.296	0.305	1.00	0.416	pCi/L	03/28/18 10:53	04/04/18 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*
Y Carrier	*92.0*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.82		0.340	0.360	5.00	0.416	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: DUP-01

Date Collected: 03/20/18 16:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-3

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	0.927		0.159	0.180	1.00	0.0915	pCi/L	03/28/18 10:18	04/19/18 05:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.421		0.236	0.239	1.00	0.355	pCi/L	03/28/18 10:53	04/04/18 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*
Y Carrier	*92.3*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.35		0.285	0.299	5.00	0.355	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-02

Date Collected: 03/21/18 09:51
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-4

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	0.935		0.152	0.174	1.00	0.0726	pCi/L	03/28/18 10:18	04/19/18 05:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.381		0.238	0.241	1.00	0.365	pCi/L	03/28/18 10:53	04/04/18 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*
Y Carrier	*89.0*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.32		0.282	0.297	5.00	0.365	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-07

Date Collected: 03/21/18 11:46
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-5

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	15.8		0.610	1.55	1.00	0.0610	pCi/L	03/28/18 10:18	04/19/18 05:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.42		0.413	0.519	1.00	0.349	pCi/L	03/28/18 10:53	04/04/18 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*
Y Carrier	*90.5*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	19.3		0.737	1.63	5.00	0.349	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-06

Date Collected: 03/21/18 13:24
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-6

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	8.57		0.447	0.891	1.00	0.0731	pCi/L	03/28/18 10:18	04/19/18 05:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	16.0		0.825	1.68	1.00	0.440	pCi/L	03/28/18 10:53	04/04/18 14:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*
Y Carrier	*90.8*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:25*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	24.5		0.938	1.90	5.00	0.440	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-10

Date Collected: 03/22/18 10:52
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-8

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	4.80		0.336	0.547	1.00	0.0664	pCi/L	03/28/18 10:18	04/19/18 05:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	14.9		0.799	1.58	1.00	0.400	pCi/L	03/28/18 10:53	04/04/18 14:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*
Y Carrier	*87.5*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	19.7		0.867	1.67	5.00	0.400	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: FB-01

Date Collected: 03/22/18 13:20
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-10

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	0.00290	U	0.0343	0.0343	1.00	0.0723	pCi/L	03/28/18 10:18	04/19/18 05:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0465	U	0.220	0.220	1.00	0.384	pCi/L	03/28/18 10:53	04/04/18 14:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*
Y Carrier	*89.0*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0494	U	0.223	0.223	5.00	0.384	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: EB-01

Date Collected: 03/22/18 14:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-11

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	0.00652	U	0.0409	0.0409	1.00	0.0807	pCi/L	03/28/18 10:18	04/19/18 05:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.261	U	0.205	0.207	1.00	0.324	pCi/L	03/28/18 10:53	04/04/18 14:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*
Y Carrier	*92.0*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.268	U	0.209	0.211	5.00	0.324	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-08

Date Collected: 03/22/18 16:40
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-12

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	11.7		0.516	1.17	1.00	0.0704	pCi/L	03/28/18 10:18	04/19/18 05:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	20.7		0.903	2.11	1.00	0.352	pCi/L	03/28/18 10:53	04/04/18 14:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*
Y Carrier	*90.5*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:26*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	32.4		1.04	2.41	5.00	0.352	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-09

Date Collected: 03/23/18 09:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-15

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	7.28		0.409	0.773	1.00	0.0735	pCi/L	03/28/18 10:18	04/19/18 05:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.47		0.485	0.699	1.00	0.312	pCi/L	03/28/18 10:53	04/04/18 14:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:27*	*1*
Y Carrier	*87.9*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:27*	*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	12.8		0.634	1.04	5.00	0.312	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: EB-02

Date Collected: 03/23/18 08:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-16

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	-0.000606	U	0.0285	0.0285	1.00	0.0655	pCi/L	03/28/18 10:18	04/19/18 05:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.198	U	0.221	0.222	1.00	0.363	pCi/L	03/28/18 10:53	04/04/18 14:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:27*	*1*
Y Carrier	*88.6*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:27*	*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	0.198	U	0.223	0.224	5.00	0.363	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: FB-02

Date Collected: 03/23/18 07:55
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-17

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	0.0448	U	0.0439	0.0441	1.00	0.0665	pCi/L	03/28/18 10:18	04/19/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.137	U	0.190	0.190	1.00	0.317	pCi/L	03/28/18 10:53	04/04/18 14:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*1*
Y Carrier	*91.2*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*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	0.181	U	0.195	0.195	5.00	0.317	pCi/L		04/19/18 17:52	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: DUP-04

Date Collected: 03/23/18 08:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-18

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	7.95		0.426	0.832	1.00	0.0630	pCi/L	03/28/18 10:18	04/19/18 05:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:58*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.28		0.541	0.791	1.00	0.331	pCi/L	03/28/18 10:53	04/04/18 14:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*1*
Y Carrier	*81.9*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*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	14.2		0.689	1.15	5.00	0.331	pCi/L		04/19/18 17:52	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-12
Date Collected: 03/20/18 13:29
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:54	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:23	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MW-03
Date Collected: 03/20/18 17:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:25	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: DUP-01
Date Collected: 03/20/18 16:20
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:25	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MW-02
Date Collected: 03/21/18 09:51
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:25	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: MW-07
Date Collected: 03/21/18 11:46
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:25	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MW-06
Date Collected: 03/21/18 13:24
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:25	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 03/22/18 10:52
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151256-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:26	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: FB-01
Date Collected: 03/22/18 13:20
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:26	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: EB-01
Date Collected: 03/22/18 14:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:26	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MW-08
Date Collected: 03/22/18 16:40
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:26	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: MW-09
Date Collected: 03/23/18 09:02
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:27	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: EB-02
Date Collected: 03/23/18 08:05
Date Received: 03/23/18 17:05

Lab Sample ID: 400-151256-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:56	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358768	04/04/18 14:27	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Client Sample ID: FB-02

Lab Sample ID: 400-151256-17

Date Collected: 03/23/18 07:55
Matrix: Water
Date Received: 03/23/18 17:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361701	04/19/18 05:57	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358769	04/04/18 14:28	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Client Sample ID: DUP-04

Lab Sample ID: 400-151256-18

Date Collected: 03/23/18 08:02
Matrix: Water
Date Received: 03/23/18 17:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			357975	03/28/18 10:18	TJT	TAL SL
Total/NA	Analysis	9315		1	361702	04/19/18 05:58	RTM	TAL SL
Total/NA	Prep	PrecSep_0			357987	03/28/18 10:53	TJT	TAL SL
Total/NA	Analysis	9320		1	358769	04/04/18 14:28	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	361901	04/19/18 17:52	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: Ash Pond

Rad

Prep Batch: 357975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	PrecSep-21	
400-151256-2	MW-03	Total/NA	Water	PrecSep-21	
400-151256-3	DUP-01	Total/NA	Water	PrecSep-21	
400-151256-4	MW-02	Total/NA	Water	PrecSep-21	
400-151256-5	MW-07	Total/NA	Water	PrecSep-21	
400-151256-6	MW-06	Total/NA	Water	PrecSep-21	
400-151256-8	MW-10	Total/NA	Water	PrecSep-21	
400-151256-10	FB-01	Total/NA	Water	PrecSep-21	
400-151256-11	EB-01	Total/NA	Water	PrecSep-21	
400-151256-12	MW-08	Total/NA	Water	PrecSep-21	
400-151256-15	MW-09	Total/NA	Water	PrecSep-21	
400-151256-16	EB-02	Total/NA	Water	PrecSep-21	
400-151256-17	FB-02	Total/NA	Water	PrecSep-21	
400-151256-18	DUP-04	Total/NA	Water	PrecSep-21	
MB 160-357975/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-357975/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-76089-A-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 357987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151256-1	MW-12	Total/NA	Water	PrecSep_0	
400-151256-2	MW-03	Total/NA	Water	PrecSep_0	
400-151256-3	DUP-01	Total/NA	Water	PrecSep_0	
400-151256-4	MW-02	Total/NA	Water	PrecSep_0	
400-151256-5	MW-07	Total/NA	Water	PrecSep_0	
400-151256-6	MW-06	Total/NA	Water	PrecSep_0	
400-151256-8	MW-10	Total/NA	Water	PrecSep_0	
400-151256-10	FB-01	Total/NA	Water	PrecSep_0	
400-151256-11	EB-01	Total/NA	Water	PrecSep_0	
400-151256-12	MW-08	Total/NA	Water	PrecSep_0	
400-151256-15	MW-09	Total/NA	Water	PrecSep_0	
400-151256-16	EB-02	Total/NA	Water	PrecSep_0	
400-151256-17	FB-02	Total/NA	Water	PrecSep_0	
400-151256-18	DUP-04	Total/NA	Water	PrecSep_0	
MB 160-357987/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-357987/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-76089-A-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-357975/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 361702 — **Prep Batch: 357975**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02629	U	0.0468	0.0469	1.00	0.0829	pCi/L	03/28/18 10:18	04/19/18 05:58	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*03/28/18 10:18*	*04/19/18 05:58*	*1*

Lab Sample ID: LCS 160-357975/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 361701 — **Prep Batch: 357975**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.26		1.04	1.00	0.0737	pCi/L	87	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*40 - 110*

Lab Sample ID: 180-76089-A-1-A DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 361701 — **Prep Batch: 357975**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0776	U		0.08362		0.0533	1.00	0.0640	pCi/L			0.05	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-357987/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 358769 — **Prep Batch: 357987**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2976	U	0.197	0.199	1.00	0.302	pCi/L	03/28/18 10:53	04/04/18 14:28	1
Radium-228	0.2976	U	0.197	0.199	1.00	0.302	pCi/L	03/28/18 10:53	04/04/18 14:28	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*1*
Ba Carrier	*105*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*1*
Y Carrier	*92.0*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*1*
Y Carrier	*92.0*		*40 - 110*	*03/28/18 10:53*	*04/04/18 14:28*	*1*

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

Lab Sample ID: LCS 160-357987/1-A
Matrix: Water
Analysis Batch: 358768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 357987

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.42	7.914		0.942	1.00	0.321	pCi/L	94	56 - 140		
Radium-228			8.42	7.914		0.942	1.00	0.321	pCi/L	94	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*98.5*		*40 - 110*
Ba Carrier	*98.5*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: 180-76089-A-1-B DU
Matrix: Water
Analysis Batch: 358768

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 357987

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.528			0.8681		0.309	1.00	0.415	pCi/L			0.61	1
Radium-228	0.528			0.8681		0.309	1.00	0.415	pCi/L			0.61	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*
Ba Carrier	*99.4*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	1 of 2 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-02	3-21-18	0957	G	GW	3			X	X	X		
MW-03	3-20-18	1720	G	GW	3			X	X	X		
MW-06	3-21-18	1324	G	GW	3			X	X	X		
MW-07	3-21-18	1146	G	GW	3			X	X	X		
MW-08	3-22-18	1640	G	GW	3			X	X	X		
MW-09	3-23-18	0902	G	GW	3			X	X	X		
MW-10	3-22-18	1052	G	GW	3			X	X	X		
MW-12	3-20-18	1329	G	GW	3			X	X	X		
DUP-01	3-20-18	1620	G	GW	3			X	X	X		
DUP-04	3-23-18	0802	G	GW	3			X	X	X		
EB-01	3-22-18	1405	G	W	3			X	X	X		
FB-01	3-22-18	1320	G	W	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

4.8°C, 0.0°C, 4.1°C, 0.0°C, 0.0°C, IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by:	Rolt Env.	3-23-18 1705	Received by:	TAPen	3/23/18 1705
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	2 of 2 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
EB-02	3-23-18	0805	G	W	3			X	X	X	~~X~~ RDH	
FB-02	3-23-18	0755	G	W	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

4.8°C, 0.0°C, 4.1°C, 0.0°C, 0.0°C IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	RDH Env.	3-23-18 1705		TA Pen	3/23/18 1705
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151256-2
SDG Number: Ash Pond

Login Number: 151256
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C, 0.0°C,4.1°C, 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: Gulf Power Company

Job Number: 400-151256-2
SDG Number: Ash Pond

Login Number: 151256
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/24/18 10:20 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	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	

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151256-2
SDG Number: Ash Pond

Login Number: 151256
List Number: 3
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/27/18 01:48 PM

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	19.0,19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: 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	06-30-18
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151256-2
SDG: 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
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.

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: 400-151280-1
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/13/2018 2:21:37 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 9
Chronicle 10
QC Association 11
QC Sample Results 13
Chain of Custody 18
Receipt Checklists 19
Certification Summary 20

Job ID: 400-151280-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151280-1

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 392265 and analytical batch 393106 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 following samples were diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-151280-1) and DUP-02 (400-151280-2). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The method blank for preparation batch 393404 and analytical batch 393589 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

General Chemistry
Method(s) SM 4500 Cl- E: The method blank for analytical batch 392343 contained chloride 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.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-151280-1) and DUP-02 (400-151280-2). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-151280-1) and DUP-02 (400-151280-2). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Client Sample ID: MW-11 — Lab Sample ID: 400-151280-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.016		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.081		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0025		0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	99		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.068		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.00046	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.012		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.017		0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00066	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	3.7		0.50	0.21	mg/L	50		6020	Total Recoverable
Total Dissolved Solids	3600		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	1900		80	24	mg/L	40		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	240		50	14	mg/L	10		SM 4500 SO4 E	Total/NA
Field pH	6.28				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-02 — Lab Sample ID: 400-151280-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.016		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.080		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0025		0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	98		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0061		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.013		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.017		0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00065	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	3.8		0.50	0.21	mg/L	50		6020	Total Recoverable
Total Dissolved Solids	3700		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	1900		80	24	mg/L	40		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	250		50	14	mg/L	10		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151280-1	MW-11	Water	03/21/18 17:25	03/22/18 14:40
400-151280-2	DUP-02	Water	03/21/18 16:25	03/22/18 14:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Client Sample ID: MW-11

Date Collected: 03/21/18 17:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 17:26	5
Arsenic	**0.016**		0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 17:26	5
Barium	**0.081**		0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 17:26	5
Beryllium	**0.0025**		0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:26	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:26	5
Calcium	**99**		0.25	0.13	mg/L		04/01/18 12:07	04/06/18 17:26	5
Chromium	**0.068**		0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 17:26	5
Cobalt	**0.00046**	**I**	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 17:26	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 17:26	5
Lithium	**0.012**		0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 17:26	5
Molybdenum	**0.017**		0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 17:26	5
Selenium	**0.00066**	**I**	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 17:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 17:26	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.7**		0.50	0.21	mg/L		04/01/18 12:07	04/07/18 06:08	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 14:22	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3600**		50	34	mg/L			03/26/18 12:25	1
Chloride	**1900**		80	24	mg/L			04/02/18 11:47	40
Fluoride	**0.050**	**I**	0.10	0.032	mg/L			03/30/18 10:24	1
Sulfate	**240**		50	14	mg/L			03/27/18 07:43	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.28**				SU			03/21/18 17:25	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Client Sample ID: DUP-02

Date Collected: 03/21/18 16:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 17:30	5
Arsenic	**0.016**		0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 17:30	5
Barium	**0.080**		0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 17:30	5
Beryllium	**0.0025**		0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:30	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:30	5
Calcium	**98**		0.25	0.13	mg/L		04/01/18 12:07	04/06/18 17:30	5
Chromium	**0.0061**		0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 17:30	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 17:30	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 17:30	5
Lithium	**0.013**		0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 17:30	5
Molybdenum	**0.017**		0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 17:30	5
Selenium	**0.00065**	**I**	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 17:30	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 17:30	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.8**		0.50	0.21	mg/L		04/01/18 12:07	04/07/18 06:13	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:06	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3700**		50	34	mg/L			03/26/18 12:25	1
Chloride	**1900**		80	24	mg/L			04/02/18 11:47	40
Fluoride	**0.050**	**I**	0.10	0.032	mg/L			03/30/18 10:27	1
Sulfate	**250**		50	14	mg/L			03/27/18 07:43	10

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Client Sample ID: MW-11
Date Collected: 03/21/18 17:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393106	04/06/18 17:26	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	50	393106	04/07/18 06:08	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 14:22	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391438	03/26/18 12:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		40	392343	04/02/18 11:47	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392128	03/30/18 10:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		10	391563	03/27/18 07:43	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/21/18 17:25	AW	TAL PEN

Client Sample ID: DUP-02
Date Collected: 03/21/18 16:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393106	04/06/18 17:30	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	50	393106	04/07/18 06:13	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:06	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391438	03/26/18 12:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		40	392343	04/02/18 11:47	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392128	03/30/18 10:27	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		10	391563	03/27/18 07:43	RRC	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Metals

Prep Batch: 392265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total Recoverable	Water	3005A	
400-151280-1 - DL	MW-11	Total Recoverable	Water	3005A	
400-151280-2 - DL	DUP-02	Total Recoverable	Water	3005A	
400-151280-2	DUP-02	Total Recoverable	Water	3005A	
MB 400-392265/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-392265/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151170-B-24-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-151170-B-24-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 393106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total Recoverable	Water	6020	392265
400-151280-1 - DL	MW-11	Total Recoverable	Water	6020	392265
400-151280-2	DUP-02	Total Recoverable	Water	6020	392265
400-151280-2 - DL	DUP-02	Total Recoverable	Water	6020	392265
MB 400-392265/1-A ^5	Method Blank	Total Recoverable	Water	6020	392265
LCS 400-392265/2-A	Lab Control Sample	Total Recoverable	Water	6020	392265
400-151170-B-24-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	392265
400-151170-B-24-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	392265

Prep Batch: 393404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	7470A	
400-151280-2	DUP-02	Total/NA	Water	7470A	
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151280-1 MS	MW-11	Total/NA	Water	7470A	
400-151280-1 MSD	MW-11	Total/NA	Water	7470A	

Analysis Batch: 393589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	7470A	393404
400-151280-2	DUP-02	Total/NA	Water	7470A	393404
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	393404
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	393404
400-151280-1 MS	MW-11	Total/NA	Water	7470A	393404
400-151280-1 MSD	MW-11	Total/NA	Water	7470A	393404

General Chemistry

Analysis Batch: 391438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	SM 2540C	
400-151280-2	DUP-02	Total/NA	Water	SM 2540C	
MB 400-391438/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391438/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151189-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

General Chemistry (Continued)

Analysis Batch: 391563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	SM 4500 SO4 E	
400-151280-2	DUP-02	Total/NA	Water	SM 4500 SO4 E	
MB 400-391563/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-391563/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-391563/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-151209-G-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151209-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 392128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	SM 4500 F C	
400-151280-2	DUP-02	Total/NA	Water	SM 4500 F C	
MB 400-392128/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-392128/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
660-86263-C-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
660-86263-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
660-86302-C-3 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	SM 4500 Cl- E	
400-151280-2	DUP-02	Total/NA	Water	SM 4500 Cl- E	
MB 400-392343/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392343/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392343/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-151256-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-151256-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Field Service / Mobile Lab

Analysis Batch: 393575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-392265/1-A ^5
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 14:14	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 14:14	5
Barium	0.00049	U	0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 14:14	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 14:14	5
Boron	0.021	U	0.050	0.021	mg/L		04/01/18 12:07	04/06/18 14:14	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 14:14	5
Calcium	0.13	U	0.25	0.13	mg/L		04/01/18 12:07	04/06/18 14:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 14:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 14:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 14:14	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 14:14	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 14:14	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 14:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 14:14	5

Lab Sample ID: LCS 400-392265/2-A
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0528		mg/L		106	80 - 120
Arsenic	0.0500	0.0512		mg/L		102	80 - 120
Barium	0.0500	0.0505		mg/L		101	80 - 120
Beryllium	0.0500	0.0507		mg/L		101	80 - 120
Boron	0.100	0.104		mg/L		104	80 - 120
Cadmium	0.0500	0.0515		mg/L		103	80 - 120
Calcium	5.00	5.32		mg/L		106	80 - 120
Chromium	0.0500	0.0497		mg/L		99	80 - 120
Cobalt	0.0500	0.0495		mg/L		99	80 - 120
Lead	0.0500	0.0512		mg/L		102	80 - 120
Lithium	0.0500	0.0503		mg/L		101	80 - 120
Molybdenum	0.0500	0.0514		mg/L		103	80 - 120
Selenium	0.0500	0.0488		mg/L		98	80 - 120
Thallium	0.0100	0.00986		mg/L		99	80 - 120

Lab Sample ID: 400-151170-B-24-B MS ^5
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0556		mg/L		111	75 - 125
Arsenic	0.00046	U	0.0500	0.0519		mg/L		104	75 - 125
Barium	0.035		0.0500	0.0880		mg/L		107	75 - 125
Beryllium	0.00034	U	0.0500	0.0517		mg/L		103	75 - 125
Boron	0.021	U	0.100	0.111		mg/L		111	75 - 125
Cadmium	0.00034	U	0.0500	0.0512		mg/L		102	75 - 125
Calcium	15		5.00	20.1		mg/L		101	75 - 125
Chromium	0.0086		0.0500	0.0589		mg/L		101	75 - 125

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

Lab Sample ID: 400-151170-B-24-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393106 — **Prep Batch: 392265**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	U	0.0500	0.0504		mg/L		101	75 - 125
Lead	0.00035	U	0.0500	0.0518		mg/L		104	75 - 125
Lithium	0.0011	U	0.0500	0.0657	J3	mg/L		131	75 - 125
Molybdenum	0.00085	U	0.0500	0.0537		mg/L		107	75 - 125
Selenium	0.00024	U	0.0500	0.0502		mg/L		100	75 - 125
Thallium	0.000085	U	0.0100	0.0100		mg/L		100	75 - 125

Lab Sample ID: 400-151170-B-24-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393106 — **Prep Batch: 392265**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0010	U	0.0500	0.0543		mg/L		109	75 - 125	2	20
Arsenic	0.00046	U	0.0500	0.0521		mg/L		104	75 - 125	0	20
Barium	0.035		0.0500	0.0865		mg/L		104	75 - 125	2	20
Beryllium	0.00034	U	0.0500	0.0505		mg/L		101	75 - 125	2	20
Boron	0.021	U	0.100	0.109		mg/L		109	75 - 125	2	20
Cadmium	0.00034	U	0.0500	0.0537		mg/L		107	75 - 125	5	20
Calcium	15		5.00	20.4		mg/L		107	75 - 125	2	20
Chromium	0.0086		0.0500	0.0717	J3	mg/L		126	75 - 125	20	20
Cobalt	0.00040	U	0.0500	0.0504		mg/L		101	75 - 125	0	20
Lead	0.00035	U	0.0500	0.0518		mg/L		104	75 - 125	0	20
Lithium	0.0011	U	0.0500	0.0656	J3	mg/L		131	75 - 125	0	20
Molybdenum	0.00085	U	0.0500	0.0529		mg/L		106	75 - 125	2	20
Selenium	0.00024	U	0.0500	0.0492		mg/L		98	75 - 125	2	20
Thallium	0.000085	U	0.0100	0.0101		mg/L		101	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-393404/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000777	I	0.00020	0.000070	mg/L		04/10/18 12:08	04/11/18 15:00	1

Lab Sample ID: LCS 400-393404/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.00101		mg/L		100	80 - 120

Lab Sample ID: 400-151280-1 MS — **Client Sample ID: MW-11**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00198		mg/L		98	80 - 120

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Lab Sample ID: 400-151280-1 MSD — **Client Sample ID: MW-11**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00193		mg/L		96	80 - 120	2	20

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

Lab Sample ID: MB 400-391438/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/26/18 12:25	1

Lab Sample ID: LCS 400-391438/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	246		mg/L		84	78 - 122

Lab Sample ID: 400-151189-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391438

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3.4	U	3.4	U	mg/L		NC	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-392343/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.46	I	2.0	0.60	mg/L			04/02/18 11:09	1

Lab Sample ID: LCS 400-392343/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-392343/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.47		mg/L		123	50 - 150

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

Lab Sample ID: 400-151256-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	9.3	V	10.0	19.7		mg/L		104	73 - 120		

Lab Sample ID: 400-151256-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.3	V	10.0	20.7		mg/L		114	73 - 120	5	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-392128/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 09:27	1

Lab Sample ID: LCS 400-392128/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 660-86263-C-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

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

Lab Sample ID: 660-86263-C-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

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

Lab Sample ID: 660-86302-C-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392128

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.14			0.140		mg/L				0	4

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: Ash Pond

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-391563/6
Matrix: Water
Analysis Batch: 391563

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			03/27/18 06:47	1

Lab Sample ID: LCS 400-391563/7
Matrix: Water
Analysis Batch: 391563

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.8		mg/L		99	90 - 110

Lab Sample ID: MRL 400-391563/3
Matrix: Water
Analysis Batch: 391563

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	4.58	I	mg/L		92	50 - 150

Lab Sample ID: 400-151209-G-1 MS
Matrix: Water
Analysis Batch: 391563

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	U	10.0	10.6		mg/L		106	77 - 128

Lab Sample ID: 400-151209-G-1 MSD
Matrix: Water
Analysis Batch: 391563

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	U	10.0	10.8		mg/L		108	77 - 128	2	5

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	1 of 1 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_CIE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-11	3-21-18	1725	G	GW	3	N		X	X	X		
DUP-02	3-21-18	1625	G	GW	3	N		X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

4.5°C, 0.0°C, 0.0°C IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	RSK GW	3-22-18 1440	[signature]	DRen	3/22/18 1440
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151280-1
SDG Number: Ash Pond

Login Number: 151280
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5°C, 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	

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-1
SDG: 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	06-30-18
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.

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: 400-151280-2
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/20/2018 2:26:21 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 11
Chain of Custody 13
Receipt Checklists 14
Certification Summary 16

Job ID: 400-151280-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151280-2

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-358187: Insufficient sample volume was available to perform a sample duplicate (DUP,MS, MSD) for the following samples: MW-11 (400-151280-1) and DUP-02 (400-151280-2). 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 160-358185: Insufficient sample volume was available to perform a sample duplicate (DUP,MS, MSD) for the following samples: MW-11 (400-151280-1) and DUP-02 (400-151280-2). A laboratory control sample/ laboratory control sample duplicate (LCS/ LCSD) were prepared instead to demonstrate batch precision.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151280-1	MW-11	Water	03/21/18 17:25	03/22/18 14:40
400-151280-2	DUP-02	Water	03/21/18 16:25	03/22/18 14:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: Ash Pond

Client Sample ID: MW-11

Date Collected: 03/21/18 17:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-1

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	17.1		0.689	1.68	1.00	0.0895	pCi/L	03/29/18 14:03	04/20/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*40 - 110*	*03/29/18 14:03*	*04/20/18 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	9.39		0.690	1.11	1.00	0.363	pCi/L	03/29/18 14:47	04/05/18 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:49*	*1*
Y Carrier	*87.1*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:49*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	26.5		0.975	2.01	5.00	0.363	pCi/L		04/20/18 12:23	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: Ash Pond

Client Sample ID: DUP-02

Date Collected: 03/21/18 16:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-2

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	16.0		0.641	1.57	1.00	0.0734	pCi/L	03/29/18 14:03	04/20/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*03/29/18 14:03*	*04/20/18 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	9.39		0.655	1.08	1.00	0.364	pCi/L	03/29/18 14:47	04/05/18 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:49*	*1*
Y Carrier	*87.9*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:49*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	25.4		0.916	1.91	5.00	0.364	pCi/L		04/20/18 12:23	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: Ash Pond

Client Sample ID: MW-11
Date Collected: 03/21/18 17:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358185	03/29/18 14:03	TJT	TAL SL
Total/NA	Analysis	9315		1	361925	04/20/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358187	03/29/18 14:47	TJT	TAL SL
Total/NA	Analysis	9320		1	359056	04/05/18 14:49	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362047	04/20/18 12:23	RTM	TAL SL

Client Sample ID: DUP-02
Date Collected: 03/21/18 16:25
Date Received: 03/22/18 14:40

Lab Sample ID: 400-151280-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358185	03/29/18 14:03	TJT	TAL SL
Total/NA	Analysis	9315		1	361925	04/20/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358187	03/29/18 14:47	TJT	TAL SL
Total/NA	Analysis	9320		1	359056	04/05/18 14:49	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362047	04/20/18 12:23	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: Ash Pond

Rad

Prep Batch: 358185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	PrecSep-21	
400-151280-2	DUP-02	Total/NA	Water	PrecSep-21	
MB 160-358185/16-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-358185/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-358185/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 358187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-1	MW-11	Total/NA	Water	PrecSep_0	
400-151280-2	DUP-02	Total/NA	Water	PrecSep_0	
MB 160-358187/16-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-358187/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-358187/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-358185/16-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 361925 — **Prep Batch: 358185**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03889	U	0.0431	0.0432	1.00	0.0678	pCi/L	03/29/18 14:03	04/20/18 05:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:03*	*04/20/18 05:46*	*1*

Lab Sample ID: LCS 160-358185/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 361925 — **Prep Batch: 358185**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.96		1.11	1.00	0.0703	pCi/L	93	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Lab Sample ID: LCSD 160-358185/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 361925 — **Prep Batch: 358185**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.90		1.11	1.00	0.0774	pCi/L	92	68 - 137	0.03	1

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-358187/16-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359056 — **Prep Batch: 358187**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1271	U	0.188	0.188	1.00	0.316	pCi/L	03/29/18 14:47	04/05/18 14:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:45*	*1*
Y Carrier	*90.8*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:45*	*1*

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

Lab Sample ID: LCS 160-358187/1-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358187

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.42	8.303		0.973	1.00	0.340	pCi/L	99	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*88.6*		*40 - 110*

Lab Sample ID: LCSD 160-358187/2-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358187

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.42	7.856		0.925	1.00	0.323	pCi/L	93	56 - 140	0.24	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*90.1*		*40 - 110*

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	1 of 1 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-11	3-21-18	1725	G	GW	3	N		X	X	X		
DUP-02	3-21-18	1625	G	GW	3	N		X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

4.5°C, 0.0°C, 0.0°C IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	RSK GW	3-22-18 1440		DTRen	3/22/18 1440
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151280-2
SDG Number: Ash Pond

Login Number: 151280
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5°C, 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: Gulf Power Company

Job Number: 400-151280-2
SDG Number: Ash Pond

Login Number: 151280
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/27/18 01:48 PM

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	19.0,19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: 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	06-30-18
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-2
SDG: 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
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.

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: 400-151280-3
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/13/2018 2:24:52 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 17
Receipt Checklists 18
Certification Summary 19

Job ID: 400-151280-3

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151280-3

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 392265 and analytical batch 393106 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 following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-151280-3). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The method blank for preparation batch 393404 and analytical batch 393589 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

General Chemistry
Method(s) SM 4500 Cl- E: The method blank for analytical batch 392343 contained chloride 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.

Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-151280-3). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-151280-3). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Client Sample ID: MW-13 — Lab Sample ID: 400-151280-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0014		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.098		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium	0.0024	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.25		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.033		0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	15		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	740		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	11000		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	4100		200	60	mg/L	100		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	970		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.88				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151280-3	MW-13	Water	03/22/18 15:01	03/23/18 17:00

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Client Sample ID: MW-13

Date Collected: 03/22/18 15:01
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 17:35	5
Arsenic	**0.0014**		0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 17:35	5
Barium	**0.098**		0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 17:35	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:35	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:35	5
Chromium	**0.0024**	**I**	0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 17:35	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 17:35	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 17:35	5
Lithium	**0.25**		0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 17:35	5
Molybdenum	**0.033**		0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 17:35	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 17:35	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 17:35	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**15**		2.0	0.84	mg/L		04/01/18 12:07	04/07/18 06:17	200
Calcium	**740**		10	5.0	mg/L		04/01/18 12:07	04/07/18 06:17	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:08	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**11000**		130	85	mg/L			03/27/18 13:11	1
Chloride	**4100**		200	60	mg/L			04/02/18 12:14	100
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			03/30/18 13:04	1
Sulfate	**970**		150	42	mg/L			04/03/18 10:25	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.88**				SU			03/22/18 15:01	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Client Sample ID: MW-13

Date Collected: 03/22/18 15:01
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393106	04/06/18 17:35	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	200	393106	04/07/18 06:17	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:08	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391575	03/27/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		100	392343	04/02/18 12:14	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392160	03/30/18 13:04	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	392490	04/03/18 10:25	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/22/18 15:01	AW	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Metals

Prep Batch: 392265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3 - DL	MW-13	Total Recoverable	Water	3005A	
400-151280-3	MW-13	Total Recoverable	Water	3005A	
MB 400-392265/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-392265/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151170-B-24-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-151170-B-24-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 393106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total Recoverable	Water	6020	392265
400-151280-3 - DL	MW-13	Total Recoverable	Water	6020	392265
MB 400-392265/1-A ^5	Method Blank	Total Recoverable	Water	6020	392265
LCS 400-392265/2-A	Lab Control Sample	Total Recoverable	Water	6020	392265
400-151170-B-24-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	392265
400-151170-B-24-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	392265

Prep Batch: 393404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	7470A	
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151280-B-1-C MS	Matrix Spike	Total/NA	Water	7470A	
400-151280-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 393589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	7470A	393404
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	393404
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	393404
400-151280-B-1-C MS	Matrix Spike	Total/NA	Water	7470A	393404
400-151280-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393404

General Chemistry

Analysis Batch: 391575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	SM 2540C	
MB 400-391575/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391575/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151170-A-23 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 392160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	SM 4500 F C	
MB 400-392160/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-392160/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-151514-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-151514-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-151335-B-2 DU	Duplicate	Total/NA	Water	SM 4500 F C	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

General Chemistry (Continued)

Analysis Batch: 392343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	SM 4500 Cl- E	
MB 400-392343/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392343/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392343/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-151256-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-151256-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 392490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	SM 4500 SO4 E	
MB 400-392490/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-392490/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-392490/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 393575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-392265/1-A ^5
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 14:14	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 14:14	5
Barium	0.00049	U	0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 14:14	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 14:14	5
Boron	0.021	U	0.050	0.021	mg/L		04/01/18 12:07	04/06/18 14:14	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 14:14	5
Calcium	0.13	U	0.25	0.13	mg/L		04/01/18 12:07	04/06/18 14:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 14:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 14:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 14:14	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 14:14	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 14:14	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 14:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 14:14	5

Lab Sample ID: LCS 400-392265/2-A
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0528		mg/L		106	80 - 120
Arsenic	0.0500	0.0512		mg/L		102	80 - 120
Barium	0.0500	0.0505		mg/L		101	80 - 120
Beryllium	0.0500	0.0507		mg/L		101	80 - 120
Boron	0.100	0.104		mg/L		104	80 - 120
Cadmium	0.0500	0.0515		mg/L		103	80 - 120
Calcium	5.00	5.32		mg/L		106	80 - 120
Chromium	0.0500	0.0497		mg/L		99	80 - 120
Cobalt	0.0500	0.0495		mg/L		99	80 - 120
Lead	0.0500	0.0512		mg/L		102	80 - 120
Lithium	0.0500	0.0503		mg/L		101	80 - 120
Molybdenum	0.0500	0.0514		mg/L		103	80 - 120
Selenium	0.0500	0.0488		mg/L		98	80 - 120
Thallium	0.0100	0.00986		mg/L		99	80 - 120

Lab Sample ID: 400-151170-B-24-B MS ^5
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0556		mg/L		111	75 - 125
Arsenic	0.00046	U	0.0500	0.0519		mg/L		104	75 - 125
Barium	0.035		0.0500	0.0880		mg/L		107	75 - 125
Beryllium	0.00034	U	0.0500	0.0517		mg/L		103	75 - 125
Boron	0.021	U	0.100	0.111		mg/L		111	75 - 125
Cadmium	0.00034	U	0.0500	0.0512		mg/L		102	75 - 125
Calcium	15		5.00	20.1		mg/L		101	75 - 125
Chromium	0.0086		0.0500	0.0589		mg/L		101	75 - 125

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

Lab Sample ID: 400-151170-B-24-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393106 — **Prep Batch: 392265**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	U	0.0500	0.0504		mg/L		101	75 - 125
Lead	0.00035	U	0.0500	0.0518		mg/L		104	75 - 125
Lithium	0.0011	U	0.0500	0.0657	J3	mg/L		131	75 - 125
Molybdenum	0.00085	U	0.0500	0.0537		mg/L		107	75 - 125
Selenium	0.00024	U	0.0500	0.0502		mg/L		100	75 - 125
Thallium	0.000085	U	0.0100	0.0100		mg/L		100	75 - 125

Lab Sample ID: 400-151170-B-24-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393106 — **Prep Batch: 392265**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0010	U	0.0500	0.0543		mg/L		109	75 - 125	2	20
Arsenic	0.00046	U	0.0500	0.0521		mg/L		104	75 - 125	0	20
Barium	0.035		0.0500	0.0865		mg/L		104	75 - 125	2	20
Beryllium	0.00034	U	0.0500	0.0505		mg/L		101	75 - 125	2	20
Boron	0.021	U	0.100	0.109		mg/L		109	75 - 125	2	20
Cadmium	0.00034	U	0.0500	0.0537		mg/L		107	75 - 125	5	20
Calcium	15		5.00	20.4		mg/L		107	75 - 125	2	20
Chromium	0.0086		0.0500	0.0717	J3	mg/L		126	75 - 125	20	20
Cobalt	0.00040	U	0.0500	0.0504		mg/L		101	75 - 125	0	20
Lead	0.00035	U	0.0500	0.0518		mg/L		104	75 - 125	0	20
Lithium	0.0011	U	0.0500	0.0656	J3	mg/L		131	75 - 125	0	20
Molybdenum	0.00085	U	0.0500	0.0529		mg/L		106	75 - 125	2	20
Selenium	0.00024	U	0.0500	0.0492		mg/L		98	75 - 125	2	20
Thallium	0.000085	U	0.0100	0.0101		mg/L		101	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-393404/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000777	I	0.00020	0.000070	mg/L		04/10/18 12:08	04/11/18 15:00	1

Lab Sample ID: LCS 400-393404/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.00101		mg/L		100	80 - 120

Lab Sample ID: 400-151280-B-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00198		mg/L		98	80 - 120

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Lab Sample ID: 400-151280-B-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00193		mg/L		96	80 - 120	2	20

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

Lab Sample ID: MB 400-391575/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 13:11	1

Lab Sample ID: LCS 400-391575/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	280		mg/L		96	78 - 122

Lab Sample ID: 400-151170-A-23 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	76		76.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-392343/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.46	I	2.0	0.60	mg/L			04/02/18 11:09	1

Lab Sample ID: LCS 400-392343/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-392343/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.47		mg/L		123	50 - 150

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

Lab Sample ID: 400-151256-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	9.3	V	10.0	19.7		mg/L		104	73 - 120		

Lab Sample ID: 400-151256-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.3	V	10.0	20.7		mg/L		114	73 - 120	5	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-392160/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 12:29	1

Lab Sample ID: LCS 400-392160/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 400-151514-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.17		1.00	1.26		mg/L		109	75 - 125		

Lab Sample ID: 400-151514-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.17		1.00	1.26		mg/L		109	75 - 125	0	4

Lab Sample ID: 400-151335-B-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

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

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: Ash Pond

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-392490/6
Matrix: Water
Analysis Batch: 392490

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			04/03/18 09:42	1

Lab Sample ID: LCS 400-392490/7
Matrix: Water
Analysis Batch: 392490

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	14.9		mg/L		99	90 - 110

Lab Sample ID: MRL 400-392490/3
Matrix: Water
Analysis Batch: 392490

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	4.54	I	mg/L		91	50 - 150

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	___ of ___ COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-13	3-22-18	1501	G	GW	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

4.5°C, 0.0°C, 0.0°C IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by:	MDH EW	3-23-18 1700	Received by:	3/23/18 TMRen	3/23/18 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151280-3
SDG Number: Ash Pond

Login Number: 151280
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5°C, 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	

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-3
SDG: 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	06-30-18
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.

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: 400-151280-4
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/20/2018 2:27:00 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
Chronicle 8
QC Association 9
QC Sample Results 10
Chain of Custody 12
Receipt Checklists 13
Certification Summary 15

Job ID: 400-151280-4

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151280-4

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-358187: Insufficient sample volume was available to perform a sample duplicate (DUP,MS, MSD) for the following samples: MW-13 (400-151280-3). 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 160-358185: Insufficient sample volume was available to perform a sample duplicate (DUP,MS, MSD) for the following samples: MW-13 (400-151280-3). A laboratory control sample/ laboratory control sample duplicate (LCS/ LCSD) were prepared instead to demonstrate batch precision.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151280-3	MW-13	Water	03/22/18 15:01	03/23/18 17:00

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

Client Sample ID: MW-13

Date Collected: 03/22/18 15:01
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-3

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	6.71		0.421	0.736	1.00	0.0941	pCi/L	03/29/18 14:03	04/20/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*03/29/18 14:03*	*04/20/18 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	7.27		0.600	0.899	1.00	0.371	pCi/L	03/29/18 14:47	04/05/18 14:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:51*	*1*
Y Carrier	*90.8*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:51*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	14.0		0.733	1.16	5.00	0.371	pCi/L		04/20/18 12:23	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

Client Sample ID: MW-13

Date Collected: 03/22/18 15:01
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358185	03/29/18 14:03	TJT	TAL SL
Total/NA	Analysis	9315		1	361925	04/20/18 05:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358187	03/29/18 14:47	TJT	TAL SL
Total/NA	Analysis	9320		1	359055	04/05/18 14:51	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362047	04/20/18 12:23	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

Rad

Prep Batch: 358185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	PrecSep-21	
MB 160-358185/16-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-358185/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-358185/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 358187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-3	MW-13	Total/NA	Water	PrecSep_0	
MB 160-358187/16-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-358187/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-358187/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-358185/16-A
Matrix: Water
Analysis Batch: 361925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358185

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03889	U	0.0431	0.0432	1.00	0.0678	pCi/L	03/29/18 14:03	04/20/18 05:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:03*	*04/20/18 05:46*	*1*

Lab Sample ID: LCS 160-358185/1-A
Matrix: Water
Analysis Batch: 361925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358185

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.96		1.11	1.00	0.0703	pCi/L	93	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Lab Sample ID: LCSD 160-358185/2-A
Matrix: Water
Analysis Batch: 361925

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358185

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.90		1.11	1.00	0.0774	pCi/L	92	68 - 137	0.03	1

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-358187/16-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358187

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1271	U	0.188	0.188	1.00	0.316	pCi/L	03/29/18 14:47	04/05/18 14:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:45*	*1*
Y Carrier	*90.8*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:45*	*1*

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: Ash Pond

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

Lab Sample ID: LCS 160-358187/1-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358187

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.42	8.303		0.973	1.00	0.340	pCi/L	99	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*88.6*		*40 - 110*

Lab Sample ID: LCSD 160-358187/2-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358187

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.42	7.856		0.925	1.00	0.323	pCi/L	93	56 - 140	0.24	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*90.1*		*40 - 110*

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	___ of ___ COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			Job / SDG No.:
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-13	3-22-18	1501	G	GW	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

4.5°C, 0.0°C, 0.0°C IR-7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by:	MDH EW	3-23-18 1700	Received by:	3/23/18 TMRen	3/23/18 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151280-4
SDG Number: Ash Pond

Login Number: 151280
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5°C, 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: Gulf Power Company

Job Number: 400-151280-4
SDG Number: Ash Pond

Login Number: 151280
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/27/18 01:48 PM

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	19.0,19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: 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	06-30-18
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-4
SDG: 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
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.

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: 400-151280-5
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/13/2018 4:58:38 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 17
Receipt Checklists 18
Certification Summary 19

Job ID: 400-151280-5

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151280-5

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 392265 and analytical batch 393106 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 following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-151280-4). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The method blank for preparation batch 393404 and analytical batch 393589 contained Mercury above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

General Chemistry
Method(s) SM 4500 Cl- E: The method blank for analytical batch 392343 contained chloride 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.

Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-151280-4). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-151280-4). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Client Sample ID: MW-14 — Lab Sample ID: 400-151280-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0041		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.051		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium	0.0017	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0013	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.017		0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	12		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	250		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	4800		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2000		80	24	mg/L	40		SM 4500 Cl- E	Total/NA
Fluoride	0.070	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	590		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	6.87				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151280-4	MW-14	Water	03/22/18 18:52	03/23/18 17:00

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Client Sample ID: MW-14

Date Collected: 03/22/18 18:52
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 17:39	5
Arsenic	**0.0041**		0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 17:39	5
Barium	**0.051**		0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 17:39	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:39	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 17:39	5
Chromium	**0.0017**	**I**	0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 17:39	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 17:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 17:39	5
Lithium	**0.0013**	**I**	0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 17:39	5
Molybdenum	**0.017**		0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 17:39	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 17:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 17:39	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**12**		2.0	0.84	mg/L		04/01/18 12:07	04/07/18 06:22	200
Calcium	**250**		10	5.0	mg/L		04/01/18 12:07	04/07/18 06:22	200

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		04/10/18 12:09	04/11/18 15:10	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4800**		50	34	mg/L			03/27/18 13:11	1
Chloride	**2000**		80	24	mg/L			04/02/18 11:57	40
Fluoride	**0.070**	**I**	0.10	0.032	mg/L			03/30/18 13:06	1
Sulfate	**590**		100	28	mg/L			04/03/18 10:25	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.87**				SU			03/22/18 18:52	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Client Sample ID: MW-14

Date Collected: 03/22/18 18:52
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393106	04/06/18 17:39	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		392265	04/01/18 12:07	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	200	393106	04/07/18 06:22	DRE	TAL PEN
Total/NA	Prep	7470A			393404	04/10/18 12:09	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393589	04/11/18 15:10	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	391575	03/27/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		40	392343	04/02/18 11:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392160	03/30/18 13:06	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	392490	04/03/18 10:25	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/22/18 18:52	AW	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Metals

Prep Batch: 392265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4 - DL	MW-14	Total Recoverable	Water	3005A	
400-151280-4	MW-14	Total Recoverable	Water	3005A	
MB 400-392265/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-392265/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151170-B-24-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-151170-B-24-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 393106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total Recoverable	Water	6020	392265
400-151280-4 - DL	MW-14	Total Recoverable	Water	6020	392265
MB 400-392265/1-A ^5	Method Blank	Total Recoverable	Water	6020	392265
LCS 400-392265/2-A	Lab Control Sample	Total Recoverable	Water	6020	392265
400-151170-B-24-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	392265
400-151170-B-24-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	392265

Prep Batch: 393404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	7470A	
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151280-B-1-C MS	Matrix Spike	Total/NA	Water	7470A	
400-151280-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 393589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	7470A	393404
MB 400-393404/14-A	Method Blank	Total/NA	Water	7470A	393404
LCS 400-393404/15-A	Lab Control Sample	Total/NA	Water	7470A	393404
400-151280-B-1-C MS	Matrix Spike	Total/NA	Water	7470A	393404
400-151280-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393404

General Chemistry

Analysis Batch: 391575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	SM 2540C	
MB 400-391575/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-391575/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-151170-A-23 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 392160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	SM 4500 F C	
MB 400-392160/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-392160/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-151514-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-151514-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-151335-B-2 DU	Duplicate	Total/NA	Water	SM 4500 F C	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

General Chemistry (Continued)

Analysis Batch: 392343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	SM 4500 Cl- E	
MB 400-392343/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-392343/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-392343/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-151256-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-151256-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 392490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	SM 4500 SO4 E	
MB 400-392490/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-392490/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-392490/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-151335-B-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151335-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 393575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-392265/1-A ^5
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		04/01/18 12:07	04/06/18 14:14	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		04/01/18 12:07	04/06/18 14:14	5
Barium	0.00049	U	0.0025	0.00049	mg/L		04/01/18 12:07	04/06/18 14:14	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 14:14	5
Boron	0.021	U	0.050	0.021	mg/L		04/01/18 12:07	04/06/18 14:14	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		04/01/18 12:07	04/06/18 14:14	5
Calcium	0.13	U	0.25	0.13	mg/L		04/01/18 12:07	04/06/18 14:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		04/01/18 12:07	04/06/18 14:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		04/01/18 12:07	04/06/18 14:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		04/01/18 12:07	04/06/18 14:14	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		04/01/18 12:07	04/06/18 14:14	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		04/01/18 12:07	04/06/18 14:14	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		04/01/18 12:07	04/06/18 14:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		04/01/18 12:07	04/06/18 14:14	5

Lab Sample ID: LCS 400-392265/2-A
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0528		mg/L		106	80 - 120
Arsenic	0.0500	0.0512		mg/L		102	80 - 120
Barium	0.0500	0.0505		mg/L		101	80 - 120
Beryllium	0.0500	0.0507		mg/L		101	80 - 120
Boron	0.100	0.104		mg/L		104	80 - 120
Cadmium	0.0500	0.0515		mg/L		103	80 - 120
Calcium	5.00	5.32		mg/L		106	80 - 120
Chromium	0.0500	0.0497		mg/L		99	80 - 120
Cobalt	0.0500	0.0495		mg/L		99	80 - 120
Lead	0.0500	0.0512		mg/L		102	80 - 120
Lithium	0.0500	0.0503		mg/L		101	80 - 120
Molybdenum	0.0500	0.0514		mg/L		103	80 - 120
Selenium	0.0500	0.0488		mg/L		98	80 - 120
Thallium	0.0100	0.00986		mg/L		99	80 - 120

Lab Sample ID: 400-151170-B-24-B MS ^5
Matrix: Water
Analysis Batch: 393106

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 392265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0556		mg/L		111	75 - 125
Arsenic	0.00046	U	0.0500	0.0519		mg/L		104	75 - 125
Barium	0.035		0.0500	0.0880		mg/L		107	75 - 125
Beryllium	0.00034	U	0.0500	0.0517		mg/L		103	75 - 125
Boron	0.021	U	0.100	0.111		mg/L		111	75 - 125
Cadmium	0.00034	U	0.0500	0.0512		mg/L		102	75 - 125
Calcium	15		5.00	20.1		mg/L		101	75 - 125
Chromium	0.0086		0.0500	0.0589		mg/L		101	75 - 125

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

Lab Sample ID: 400-151170-B-24-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393106 — **Prep Batch: 392265**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	U	0.0500	0.0504		mg/L		101	75 - 125
Lead	0.00035	U	0.0500	0.0518		mg/L		104	75 - 125
Lithium	0.0011	U	0.0500	0.0657	J3	mg/L		131	75 - 125
Molybdenum	0.00085	U	0.0500	0.0537		mg/L		107	75 - 125
Selenium	0.00024	U	0.0500	0.0502		mg/L		100	75 - 125
Thallium	0.000085	U	0.0100	0.0100		mg/L		100	75 - 125

Lab Sample ID: 400-151170-B-24-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 393106 — **Prep Batch: 392265**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0010	U	0.0500	0.0543		mg/L		109	75 - 125	2	20
Arsenic	0.00046	U	0.0500	0.0521		mg/L		104	75 - 125	0	20
Barium	0.035		0.0500	0.0865		mg/L		104	75 - 125	2	20
Beryllium	0.00034	U	0.0500	0.0505		mg/L		101	75 - 125	2	20
Boron	0.021	U	0.100	0.109		mg/L		109	75 - 125	2	20
Cadmium	0.00034	U	0.0500	0.0537		mg/L		107	75 - 125	5	20
Calcium	15		5.00	20.4		mg/L		107	75 - 125	2	20
Chromium	0.0086		0.0500	0.0717	J3	mg/L		126	75 - 125	20	20
Cobalt	0.00040	U	0.0500	0.0504		mg/L		101	75 - 125	0	20
Lead	0.00035	U	0.0500	0.0518		mg/L		104	75 - 125	0	20
Lithium	0.0011	U	0.0500	0.0656	J3	mg/L		131	75 - 125	0	20
Molybdenum	0.00085	U	0.0500	0.0529		mg/L		106	75 - 125	2	20
Selenium	0.00024	U	0.0500	0.0492		mg/L		98	75 - 125	2	20
Thallium	0.000085	U	0.0100	0.0101		mg/L		101	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-393404/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000777	I	0.00020	0.000070	mg/L		04/10/18 12:08	04/11/18 15:00	1

Lab Sample ID: LCS 400-393404/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.00101		mg/L		100	80 - 120

Lab Sample ID: 400-151280-B-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00198		mg/L		98	80 - 120

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: Ash Pond

Lab Sample ID: 400-151280-B-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 393589 — **Prep Batch: 393404**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00193		mg/L		96	80 - 120	2	20

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

Lab Sample ID: MB 400-391575/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/27/18 13:11	1

Lab Sample ID: LCS 400-391575/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	280		mg/L		96	78 - 122

Lab Sample ID: 400-151170-A-23 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391575

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	76		76.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-392343/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.46	I	2.0	0.60	mg/L			04/02/18 11:09	1

Lab Sample ID: LCS 400-392343/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.9		mg/L		106	90 - 110

Lab Sample ID: MRL 400-392343/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.47		mg/L		123	50 - 150

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

Lab Sample ID: 400-151256-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	9.3	V	10.0	19.7		mg/L		104	73 - 120		

Lab Sample ID: 400-151256-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.3	V	10.0	20.7		mg/L		114	73 - 120	5	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-392160/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/30/18 12:29	1

Lab Sample ID: LCS 400-392160/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 400-151514-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.17		1.00	1.26		mg/L		109	75 - 125		

Lab Sample ID: 400-151514-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.17		1.00	1.26		mg/L		109	75 - 125	0	4

Lab Sample ID: 400-151335-B-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392160

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-392490/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			04/03/18 09:42	1

Lab Sample ID: LCS 400-392490/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.9		mg/L		99	90 - 110		

Lab Sample ID: MRL 400-392490/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.54	I	mg/L		91	50 - 150		

Lab Sample ID: 400-151335-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	6.9		10.0	17.6		mg/L		107	77 - 128		

Lab Sample ID: 400-151335-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392490

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	6.9		10.0	17.7		mg/L		107	77 - 128	0	5

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	1 of 1 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-14	3-22-18	1852	G	GW	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

4.5°C, 0.0°C, 0.0°C IR7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by:	RSIT EW	3-23-18 1700	Received by:	TA Pen	3/23/18 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151280-5
SDG Number: Ash Pond

Login Number: 151280
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5°C, 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	

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-5
SDG: 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	06-30-18
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.

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: 400-151280-6
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
4/20/2018 2:27:52 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
Chronicle 8
QC Association 9
QC Sample Results 10
Chain of Custody 12
Receipt Checklists 13
Certification Summary 15

Job ID: 400-151280-6

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151280-6

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-358187: Insufficient sample volume was available to perform a sample duplicate (DUP,MS, MSD) for the following samples: MW-14 (400-151280-4). 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 160-358185: Insufficient sample volume was available to perform a sample duplicate (DUP,MS, MSD) for the following samples: MW-14 (400-151280-4). A laboratory control sample/ laboratory control sample duplicate (LCS/ LCSD) were prepared instead to demonstrate batch precision.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151280-4	MW-14	Water	03/22/18 18:52	03/23/18 17:00

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: Ash Pond

Client Sample ID: MW-14

Date Collected: 03/22/18 18:52
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-4

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	2.18		0.233	0.305	1.00	0.0717	pCi/L	03/29/18 14:03	04/20/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:03*	*04/20/18 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	2.60		0.362	0.434	1.00	0.313	pCi/L	03/29/18 14:47	04/05/18 14:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:51*	*1*
Y Carrier	*90.1*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:51*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.78		0.431	0.530	5.00	0.313	pCi/L		04/20/18 12:23	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: Ash Pond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: Ash Pond

Client Sample ID: MW-14

Date Collected: 03/22/18 18:52
Date Received: 03/23/18 17:00

Lab Sample ID: 400-151280-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358185	03/29/18 14:03	TJT	TAL SL
Total/NA	Analysis	9315		1	361925	04/20/18 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358187	03/29/18 14:47	TJT	TAL SL
Total/NA	Analysis	9320		1	359055	04/05/18 14:51	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	362047	04/20/18 12:23	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: Ash Pond

Rad

Prep Batch: 358185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	PrecSep-21	
MB 160-358185/16-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-358185/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-358185/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 358187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151280-4	MW-14	Total/NA	Water	PrecSep_0	
MB 160-358187/16-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-358187/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-358187/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: Ash Pond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-358185/16-A
Matrix: Water
Analysis Batch: 361925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358185

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03889	U	0.0431	0.0432	1.00	0.0678	pCi/L	03/29/18 14:03	04/20/18 05:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:03*	*04/20/18 05:46*	*1*

Lab Sample ID: LCS 160-358185/1-A
Matrix: Water
Analysis Batch: 361925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358185

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.96		1.11	1.00	0.0703	pCi/L	93	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Lab Sample ID: LCSD 160-358185/2-A
Matrix: Water
Analysis Batch: 361925

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358185

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.90		1.11	1.00	0.0774	pCi/L	92	68 - 137	0.03	1

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-358187/16-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358187

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1271	U	0.188	0.188	1.00	0.316	pCi/L	03/29/18 14:47	04/05/18 14:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:45*	*1*
Y Carrier	*90.8*		*40 - 110*	*03/29/18 14:47*	*04/05/18 14:45*	*1*

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

Lab Sample ID: LCS 160-358187/1-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358187

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.42	8.303		0.973	1.00	0.340	pCi/L	99	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*88.6*		*40 - 110*

Lab Sample ID: LCSD 160-358187/2-A
Matrix: Water
Analysis Batch: 359056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 358187

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.42	7.856		0.925	1.00	0.323	pCi/L	93	56 - 140	0.24	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*90.1*		*40 - 110*

TestAmerica Pensacola
3355 McLemore Drive

Pensacola, FL 32514-7045
phone 850.474.1001 fax 850.474.4789

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Gulf Power Company	Tel/Fax:	Lab Contact: Cheyenne Whitmire	Carrier:	1 of 1 COCs
1 Energy Place	Analysis Turnaround Time			Sampler: Rick Hagendorfer
Pensacola, FL 32520	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(850) 444-6427 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Smith Plant	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_ClE - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C Fluoride	6020 - Sb, As, Ba, B, Be, Ca, Cd, Cr, Co, Pb, Li, Mo, Se, Ti, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Sample Specific Notes:
MW-14	3-22-18	1852	G	GW	3			X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

4.5°C, 0.0°C, 0.0°C IR7

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by:	RSIT EW	3-23-18 1700	Received by:	TA Pen	3/23/18 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.16, dated 3/20/2018

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-151280-6
SDG Number: Ash Pond

Login Number: 151280
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5°C, 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: Gulf Power Company

Job Number: 400-151280-6
SDG Number: Ash Pond

Login Number: 151280
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/27/18 01:48 PM

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	19.0,19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: 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	06-30-18
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-151280-6
SDG: 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
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.

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date: August 28, 2018

To: Carl Eldred

From: Chris Pracheil

CC: H. Parthasarathy and J. Caprio

Subject: Stage 2A Data Validations - Level II Data Deliverables – TestAmerica Laboratories, Inc. Job Numbers 400-151256-1, 400-151256-2, 400-151256-8, 400-151280-1, 400-151280-2, 400-151280-3, 400-151280-4, 400-151280-5 and 400-151280-6

SITE: Plant Smith

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of eleven aqueous samples, three field duplicate samples, two field blanks and two equipment blanks collected from March 20 to 23, 2018, as part of the Plant Smith CCR sampling event.

The samples were analyzed at TestAmerica Pensacola (TA Pensacola), Pensacola, Florida, for the following analytical tests:

- Metals by EPA Methods 3005A/6020
- Mercury by EPA Method 7470A
- Chloride by Standard Methods (SM) 4500 Cl
- Fluoride by SM 45000 F
- Sulfate by SM 4500 SO_4
- Total Dissolved Solids by SM 2540 C

The samples were analyzed at TestAmerica St. Louis (TA St. Louis), Earth City, MO for the following analytical tests:

- Radium-226 by EPA Method 9315
- Radium-228 by EPA Method 9320
- Combine Radium 226 + 228 by Calculation

EXECUTIVE SUMMARY

The samples were handled, prepared and measured in the same manner under similar prescribed conditions.

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- National Functional Guidelines for Inorganic Superfund Data Review, August 2014 (OSWER 9355.0-131, EPA 540-R-013-001);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012); and,
- Southern Company Services, Inc., Standard Operating Procedure (hereafter referred to as the SOP) for Level 2A Verification of Coal Combustion Residuals Data, Environmental Testing Laboratory Program, Draft, November 21, 2017, Revision 0, Prepared by Environmental Standards, Inc., Valley Forge, Pennsylvania.

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
400-151256-1	MW-12
400-151256-2	MW-03
400-151256-3	DUP-01
400-151256-4	MW-02
400-151256-5	MW-07
400-151256-6	MW-06
400-151256-8	MW-10
400-151256-10	FB-01
400-151256-11	EB-01

Laboratory ID	Client ID
400-151256-12	MW-08
400-151256-15	MW-09
400-151256-16	EB-02
400-151256-17	FB-02
400-151256-18	DUP-04
400-151280-1	MW-11
400-151280-2	DUP-02
400-151280-3	MW-13
400-151280-4	MW-14

The samples were received within 0-6ºC, with the following exceptions. The samples that were sent to TA St. Louis were received at 19.0˚C and 22.0˚C, since these samples were being analyzed

for radium-226 and radium-228 and did not require cooling, no qualifications were applied to the data.

No sample preservation issues were noted by the laboratory.

1.0 METALS

The samples were analyzed by EPA methods 3005A/6020 (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
⊗ Field Blank
✓ Equipment Blank
⊗ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the sample set is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding time was met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 392227 and 392265). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported using sample MW-12. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exception.

The MS recovery of lithium was high and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample MW-12. Therefore, the concentrations of lithium in the associated samples were J qualified as estimated.

One batch MS/MSD pair was also reported for the metals data. Since these were batch QC, the results do not affect the samples in this data set and no qualifications were applied to the data based on the batch QC.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-12	Lithium	0.016	NA	0.016	J	M+
MW-03	Lithium	0.016	NA	0.016	J	M+
DUP-01	Lithium	0.015	NA	0.015	J	M+
MW-02	Lithium	0.012	NA	0.012	J	M+
MW-07	Lithium	0.0023	I	0.0023	J	M+
MW-06	Lithium	0.019	NA	0.019	J	M+
EB-01	Lithium	0.0014	I	0.0014	J	M+
FB-01	Lithium	0.0015	I	0.0015	J	M+
EB-01	Lithium	0.0014	I	0.0014	J	M+
MW-08	Lithium	0.011	NA	0.011	J	M+
MW-10	Lithium	0.0065	NA	0.0065	J	M+
MW-09	Lithium	0.0056	NA	0.0056	J	M+
EB-02	Lithium	0.0011	I	0.0011	J	M+
FB-02	Lithium	0.0017	I	0.0017	J	M+
DUP-04	Lithium	0.0056	NA	0.0056	J	M+

mg/L- milligram per liter
NA-not applicable
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
*-Validation qualifiers are defined in Attachment 1 at the end of this report
**-Reason codes are defined in Attachment 2 at the end of this report

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

1.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Metals were not detected in the field blanks above the MDLs, with the following exceptions.

Lithium and selenium were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-01 and lithium was detected at an estimated concentration, greater than the MDL and less the RL in FB-02. Therefore, the concentrations of lithium and selenium in the associated samples that were less than five times the field blank concentrations were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
MW-07	Lithium	0.0023	I	0.0023	U*	BF
EB-01	Lithium	0.0014	I	0.0014	U*	BF
MW-10	Lithium	0.0065		0.0065	U*	BF
MW-14	Lithium	0.0013	I	0.0013	U*	BF
MW-09	Lithium	0.0056	NA	0.0056	U*	BF
EB-02	Lithium	0.0011	I	0.0011	U*	BF
DUP-04	Lithium	0.0056		0.0056	U*	BF
MW-03	Selenium	0.00069	I	0.00069	U*	BF
DUP-01	Selenium	0.00024	I	0.00024	U*	BF
MW-07	Selenium	0.00062	I	0.00062	U*	BF
MW-06	Selenium	0.00037	I	0.00037	U*	BF
MW-11	Selenium	0.00066	I	0.00066	U*	BF
DUP-02	Selenium	0.00065	I	0.00065	U*	BF
FB-01	Selenium	0.00045	I	0.00045	U*	BF
MW-08	Selenium	0.0003	I	0.0003	U*	BF

mg/L- milligram per liter
NA-not applicable
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

1.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Metals were not detected in the equipment blanks above the MDLs, with the following exceptions.

Lithium was detected at an estimated concentration, greater than the MDL and less the RL in EB-01 and EB-02. Since the lithium concentrations in the equipment blanks were U* qualified as not detected due to equipment blank contamination, no additional qualifications were applied to the lithium data.

1.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-04. Acceptable precision [(RPD ≤ 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-11and MW-09, respectively, with the following exception.

The concentration of chromium was less than 5 times the reporting limit for DUP-02 and the difference between the concentrations of chromium in the field duplicate pair using samples DUP-02 and MW-11 was greater than the RL. Therefore the concentrations of chromium in samples DUP-02 and MW-11 were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
DUP-02	Chromium	0.0061	NA	27	0.0061	J	FD
MW-11	Chromium	0.068	NA		0.068	J	FD

mg/L- milligram per liter
NA-not applicable

Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported due to the dilutions analyzed.

1.9 Electronic Data Deliverables (EDDs) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

2.0 MERCURY

The samples were analyzed for mercury by EPA method 7470A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Time

The holding time for mercury analysis of a water sample is 28 days from sample collection to analysis. The holding time was met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported (batches 392228, 393327 and 393404). Mercury was not detected in the method blanks above the MDL, with the following exception.

Mercury was detected at an estimated concentration, greater than the MDL and less than the RL in the method blank for batch 393404. Since mercury was not detected in the associated samples, no qualifications were applied to the data.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported using sample MW-11. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria.

Two batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

2.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Mercury was not detected in the field blanks above the MDLs.

2.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Mercury was not detected in the equipment blanks above the MDLs.

2.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-04. Acceptable precision [(RPD < 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-11 and MW-09, respectively.

2.9 Sensitivity

The samples were reported to the MDLs. No elevated non-detect results were reported.

2.10 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

3.0 ANIONS

The samples were analyzed for chloride by SM 4500 Cl, fluoride by SM 4500 F and sulfate by SM 4500 SO_4.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Field Blank
✓ Equipment Blank
✓ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The anion data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

3.2 Holding Times

The holding time for anion analyses of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Nine method blanks were reported (chloride batches 392314, 392343 and 392625; fluoride batches 391874, 392128 and 392160; sulfate batches 391402, 391563 and 392490). Anions were not detected in the method blanks above the MDLs, with the following exceptions.

Chloride was detected at estimated concentrations, greater than the MDL and less than the RL, in the method blanks for batches 392314, 392343 and 392625. Therefore, the concentrations of chloride in the associated samples that were less than five times the method blank concentrations were U* qualified as not detected at the reported values.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
EB-01	Chloride	0.96	I V	0.96	U*	BL
FB-01	Chloride	0.81	I V	0.81	U*	BL
EB-02	Chloride	0.90	I V	0.90	U*	BL
FB-02	Chloride	0.74	I V	0.74	U*	BL

mg/L- milligram per liter
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
V-indicates that the analyte was detected above the method detection limit in the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported, using samples MW-02 and MW-03 for the chloride data. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria.

In addition, one batch MS/MSD pairs was reported for the chloride data, three batch MS/MSD pairs were reported for the fluoride data and three batch MS/MSD pairs were reported for the sulfate data. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Nine LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported for the fluoride data, using sample MW-07. The RPD result was within the laboratory and SOP specified acceptance criteria.

3.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Anions were not detected in the field blanks above the MDLs, with the following exceptions.

Chloride was detected at an estimated concentration, greater than the MDL and less the RL in FB-01 and FB-02. Since the concentrations of chloride in FB-01 and FB-02 were U* qualified as not detected at the reported concentration due to method blank contamination, no qualifications were applied to the chloride data based on the field blank concentrations.

3.8 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Anions were not detected in the equipment blanks above the MDLs, with the following exception.

Chloride was detected at an estimated concentration, greater than the MDL and less the RL in EB-01 and EB-02. Since the concentrations of chloride in EB-01 and EB-02 were U* qualified as not detected at the reported concentration due to method blank contamination, no qualifications were applied to the chloride data based on the equipment blank concentrations.

3.9 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02and DUP-04. Acceptable precision [(RPD < 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-11 and MW-09, respectively.

3.10 Sensitivity

The samples were reported to the MDL. No elevated non-detect results were reported.

3.11 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

4.0 TOTAL DISSOLVED SOLIDS

The samples were analyzed for total dissolved solids (TDS) by SM 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Field Blank
✓ Equipment Blank
⊗ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The TDS data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

4.2 Holding Times

The holding time for TDS analyses of a water sample is 7 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported (batches 391316, 391438, 391566, 391575 and 391578). TDS was not detected in the method blanks above the MDL.

4.4 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.5 Laboratory Duplicate

Five batch laboratory duplicates were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. TDS was not detected in the field blanks above the MDLs.

4.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. TDS was not detected in the equipment blanks above the MDLs.

4.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-04. Acceptable precision [(RPD < 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-11 and MW-09, respectively, with the following exceptions.

The TDS field duplicate RPDs for field duplicate pairs MW-03 and DUP-01 and MW-09 and DUP-04 were high and outside the SOP specified acceptance criteria. Therefore, the concentrations of TDS in samples MW-03, DUP-01, MW-09 and DUP-04 were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
DUP-01	Total Dissolved Solids	54	NA	127	54	J	FD
MW-03	Total Dissolved Solids	12	NA		12	J	FD
DUP-04	Total Dissolved Solids	2900	NA	52	2900	J	FD
MW-09	Total Dissolved Solids	1700	NA		1700	J	FD

mg/L- milligram per liter
NA-not applicable

4.9 Sensitivity

The samples were reported to the MDL. No elevated non-detect results were reported.

4.10 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs

5.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by EPA method 9315, radium-228 by EPA method 9320 and combine radium 226+228 by calculation.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Tracers and Carriers
- ✓ Field Blank
- ✓ Equipment Blank

- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

5.1 Overall Assessment

The radium-226 and radium-228 data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

5.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

5.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported for the radium-226 data (batches 357975 and 358185). Two method blanks were reported for the radium-228 data (batches 357987 and 358187). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs).

5.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

5.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/LCS duplicate (LCSD) pair was reported for radium-226 and one LCS and one LCS/LCSD pair was reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory and SOP specified acceptance criteria.

5.6 Laboratory Duplicate

One batch laboratory duplicate was reported for the radium-226 data and one batch laboratory duplicate was reported for the radium-228 data. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

5.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory and SOP specified acceptance criteria.

5.8 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Radium was not detected in the field blanks above the MDCs.

5.9 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Radium was not detected in the equipment blanks above the MDCs.

5.10 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-04. Acceptable precision [(RER (2σ) $\geq$3] was demonstrated between the field duplicates and original samples MW-03, MW-11 and MW-09, respectively.

5.11 Sensitivity

The samples were reported to the MDCs. No elevated non-detect results were reported.

5.12 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

---

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious analytical efficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample

UR The analyte was analyzed for, but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the staple and meet quality control criteria. The analyte may or may not be present in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

Product Name: Low-Flow System

Date: 2018-06-08 08:29:36

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	35 ft

Well Information:		Pumping Information:	
Well ID	MW-06	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	57.4 in
Depth to Water	13.13 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	08:04:24	1500.06	23.56	5.39	9469.37	4.92	17.51	0.27	-122.21
Last 5	08:09:24	1800.02	23.58	5.34	9585.58	4.69	17.68	0.26	-116.33
Last 5	08:14:23	2100.01	23.61	5.30	9727.44	3.76	17.85	0.23	-113.47
Last 5	08:19:26	2403.01	23.61	5.27	9810.61	3.46	17.99	0.21	-111.14
Last 5	08:24:26	2703.00	23.64	5.25	9900.00	2.60	18.07	0.18	-109.56
Variance 0			0.03	-0.04	141.86			-0.03	2.86
Variance 1			0.00	-0.02	83.17			-0.03	2.33
Variance 2			0.03	-0.02	89.39			-0.02	1.59

Notes

Sample time 0829. Dup-03 fake sample time 0605. PC 81.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-08 10:10:25

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	35.0 ft

Well Information:		Pumping Information:	
Well ID	MW-07	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	11.4 in
Depth to Water	11.49 ft	Total Volume Pumped	16 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	09:47:47	1199.97	23.34	6.28	5698.01	9.30	12.45	0.08	-204.57
Last 5	09:52:47	1499.97	23.34	6.29	5714.71	8.08	12.45	0.07	-204.54
Last 5	09:57:47	1799.97	23.34	6.30	5704.09	6.39	12.45	0.07	-204.42
Last 5	10:02:47	2099.97	23.36	6.30	5713.89	3.82	12.45	0.07	-204.92
Last 5	10:07:47	2399.97	23.38	6.31	5716.54	2.74	12.45	0.06	-204.93
Variance 0			-0.00	0.01	-10.62			-0.01	0.12
Variance 1			0.02	0.01	9.80			-0.00	-0.50
Variance 2			0.02	0.01	2.65			-0.00	-0.02

Notes

Sample time 1011. FB-02 sample time 0912. EB-02 sample time 0917. PC 84.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-07 13:15:09

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	38.0 ft

Well Information:		Pumping Information:	
Well ID	MW-08	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	88.4 in
Depth to Water	16.95 ft	Total Volume Pumped	20 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	12:50:14	1802.02	24.32	4.72	11470.37	2.82	23.71	0.09	-109.16
Last 5	12:55:14	2102.02	24.37	4.72	11449.78	1.94	23.96	0.08	-108.68
Last 5	13:00:14	2402.02	24.43	4.72	11453.13	3.02	24.15	0.08	-108.41
Last 5	13:05:14	2702.02	24.46	4.73	11463.79	1.79	24.29	0.08	-109.03
Last 5	13:10:14	3002.02	24.54	4.73	11432.56	1.91	24.41	0.08	-108.62
Variance 0			0.05	0.00	3.35			-0.00	0.27
Variance 1			0.03	0.01	10.66			-0.00	-0.63
Variance 2			0.08	0.00	-31.23			-0.00	0.41

Notes

Sample time 1314. Dup-02 fake sample time 0700. FB-01 sample time 1150. EB-01 sample time 1155. PC 87.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-07 17:21:11

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-09	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2417564 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	19.4 in
Depth to Water	10.84 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	16:57:24	300.02	25.71	6.63	7559.77	2.22	11.98	0.11	-250.73
Last 5	17:02:24	600.02	25.53	6.56	7775.95	1.86	12.48	0.09	-244.07
Last 5	17:07:24	900.02	25.32	6.54	7808.23	1.23	12.53	0.07	-240.65
Last 5	17:12:24	1199.96	25.28	6.54	7789.89	1.31	12.56	0.07	-238.33
Last 5	17:17:24	1499.96	25.33	6.52	7835.13	1.38	12.58	0.06	-236.60
Variance 0			-0.21	-0.02	32.28			-0.01	3.42
Variance 1			-0.04	-0.01	-18.34			-0.01	2.32
Variance 2			0.06	-0.02	45.24			-0.00	1.74

Notes

Sample time 1721. PC 87.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-07 19:48:01

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-10	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	14.8 in
Depth to Water	7.01 ft	Total Volume Pumped	42 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	19:26:23	5099.97	24.64	5.34	9531.92	4.52	8.28	0.09	-144.01
Last 5	19:31:23	5399.97	24.51	5.34	9543.84	3.17	8.28	0.09	-143.42
Last 5	19:36:23	5699.97	24.38	5.35	9573.73	4.16	8.28	0.09	-142.71
Last 5	19:41:23	5999.92	24.28	5.34	9578.22	3.69	8.28	0.09	-141.37
Last 5	19:46:23	6299.92	24.23	5.35	9571.51	3.36	8.28	0.09	-141.77
Variance 0			-0.12	0.01	29.89			0.00	0.71
Variance 1			-0.10	-0.01	4.49			-0.00	1.34
Variance 2			-0.05	0.01	-6.71			-0.00	-0.40

Notes

Sample time 1948. Sunset 82.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-07 08:45:05

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-11	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	42 in
Depth to Water	9.10 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	08:22:39	599.96	27.75	6.53	5823.71	3.15	12.12	0.03	-323.94
Last 5	08:27:39	899.96	25.73	6.48	6215.23	4.04	12.43	0.04	-323.55
Last 5	08:32:39	1199.96	25.60	6.43	6426.44	4.86	12.64	0.04	-322.85
Last 5	08:37:39	1499.96	25.76	6.40	6532.87	5.83	12.72	0.04	-323.15
Last 5	08:42:40	1800.96	25.68	6.39	6607.80	5.87	12.77	0.05	-322.60
Variance 0			-0.13	-0.05	211.21			0.00	0.70
Variance 1			0.17	-0.03	106.43			0.00	-0.30
Variance 2			-0.09	-0.01	74.92			0.00	0.55

Notes

Sample time 0845. Sunny 81.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-07 11:21:47

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	38.0 ft

Well Information:		Pumping Information:	
Well ID	MW-13	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	64.6 in
Depth to Water	14.69 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	10:58:50	900.02	24.85	6.86	14382.71	0.70	19.29	0.07	-306.85
Last 5	11:03:50	1200.02	24.90	6.87	14411.33	0.75	19.62	0.06	-308.78
Last 5	11:08:50	1500.02	24.99	6.87	14480.07	0.48	19.88	0.06	-308.51
Last 5	11:13:50	1800.02	24.89	6.87	14489.31	0.45	19.98	0.06	-308.55
Last 5	11:18:50	2100.02	24.82	6.86	14599.21	0.36	20.05	0.06	-307.98
Variance 0			0.09	-0.00	68.73			-0.00	0.27
Variance 1			-0.10	0.00	9.24			-0.00	-0.03
Variance 2			-0.06	-0.01	109.90			-0.00	0.56

Notes

Sample time 1122. PC 84.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-07 14:42:39

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	43 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	36.0 ft

Well Information:		Pumping Information:	
Well ID	MW-14	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2819272 L
Well Total Depth	41 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	9.4 in
Depth to Water	22.04 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	14:23:13	300.02	25.54	6.90	7454.45	1.62	22.95	0.14	-275.02
Last 5	14:28:13	600.02	25.05	6.90	7543.39	1.10	22.95	0.10	-274.10
Last 5	14:33:13	900.02	24.96	6.89	7639.30	0.94	22.97	0.09	-271.91
Last 5	14:38:13	1200.02	25.01	6.88	7654.07	0.87	22.98	0.08	-270.94
Last 5									
Variance 0			-0.49	0.00	88.94			-0.03	0.92
Variance 1			-0.09	-0.01	95.90			-0.02	2.19
Variance 2			0.05	-0.01	14.77			-0.01	0.97

Notes

Sample time 1442. PC 86.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-06 14:10:05

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	28 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	21.0 ft

Well Information:		Pumping Information:	
Well ID	MW-02	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2149758 L
Well Total Depth	26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	21 in
Depth to Water	4.01 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	13:45:09	300.05	23.10	6.41	233.13	1.76	5.41	0.11	-60.79
Last 5	13:55:08	899.50	22.80	6.43	235.00	1.56	5.80	0.07	-77.25
Last 5	14:00:08	1199.51	22.76	6.46	239.30	1.78	5.86	0.07	-78.25
Last 5	14:05:08	1499.51	22.70	6.47	240.91	1.63	5.89	0.06	-79.10
Last 5									
Variance 0			-0.30	0.02	1.87			-0.04	-16.46
Variance 1			-0.04	0.03	4.30			-0.01	-1.00
Variance 2			-0.06	0.01	1.61			-0.01	-0.85

Notes

Sample time 1410. PC 83.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-06 19:01:42

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-03	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.02 in
Depth to Water	5.49 ft	Total Volume Pumped	50 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	18:36:11	6299.90	22.44	4.97	49.34	16.30	5.71	0.05	31.60
Last 5	18:41:11	6599.90	22.43	4.97	49.51	15.70	5.71	0.06	30.80
Last 5	18:46:11	6899.90	22.40	4.96	49.38	15.00	5.72	0.05	30.01
Last 5	18:51:11	7199.89	22.40	4.96	49.41	13.80	5.72	0.07	29.34
Last 5	18:56:11	7499.90	22.40	4.96	49.33	13.50	5.72	0.06	28.77
Variance 0			-0.03	-0.01	-0.14			-0.01	-0.80
Variance 1			-0.00	-0.00	0.03			0.02	-0.66
Variance 2			-0.00	-0.00	-0.07			-0.01	-0.57

Notes

Sample time 1902. Dup-01 fake sample time 0600. PC 85.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-06 16:06:27

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	PP
Company Name	RDH Env	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	34 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	424893		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	27 ft

Well Information:		Pumping Information:	
Well ID	MW-12	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2417564 L
Well Total Depth	32 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	85 in
Depth to Water	9.83 ft	Total Volume Pumped	20 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	15:42:58	1800.02	23.43	6.10	1019.02	6.81	16.10	0.06	-25.13
Last 5	15:47:58	2100.02	23.29	6.07	992.45	7.45	16.45	0.05	-26.72
Last 5	15:52:58	2399.91	23.29	6.06	977.14	3.97	16.68	0.05	-28.18
Last 5	15:57:58	2699.91	23.25	6.05	966.86	3.86	16.84	0.05	-29.55
Last 5	16:03:03	3004.91	23.19	6.04	954.51	3.92	16.92	0.05	-31.25
Variance 0			0.00	-0.01	-15.30			0.00	-1.46
Variance 1			-0.05	-0.01	-10.28			-0.00	-1.37
Variance 2			-0.06	-0.01	-12.35			-0.00	-1.70

Notes

Sample time 1606. Cloudy 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: 400-154881-2
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant
Revision: 1

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
9/18/2018 11:11:16 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 18
Receipt Checklists 19
Certification Summary 21

Job ID: 400-154881-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154881-2

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-14 (400-154881-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-14 (400-154881-2).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-370670: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-14 (400-154881-2). 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 160-370670: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-14 (400-154881-2).

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-154881-2). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-154881-2). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 403304 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-154881-2), (400-154880-B-3), (400-154880-B-3 MS) and (400-154880-B-3 MSD). Elevated reporting limits (RLs) are provided.

Revised to reported a lower dilution.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Client Sample ID: MW-14 — Lab Sample ID: 400-154881-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0051		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.051		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Molybdenum	0.016		0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00041	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	12		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	260		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	4200		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2200		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Fluoride	0.080	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	590		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.88				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154881-2	MW-14	Water	06/07/18 14:42	06/08/18 13:50

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Client Sample ID: MW-14

Date Collected: 06/07/18 14:42
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0051		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:02	5
Barium	0.051		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:02	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:02	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:02	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:02	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:02	5
Molybdenum	0.016		0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:02	5
Selenium	0.00041	I	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:02	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12		2.0	0.84	mg/L		06/22/18 11:58	06/25/18 20:10	200
Calcium	260		10	5.0	mg/L		06/22/18 11:58	06/25/18 20:10	200

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4200		50	34	mg/L			06/13/18 18:25	1
Chloride	2200		120	36	mg/L			07/02/18 09:43	60
Fluoride	0.080	I	0.10	0.032	mg/L			07/02/18 11:24	1
Sulfate	590		150	42	mg/L			07/02/18 15:16	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.74		0.617	0.664	1.00	0.418	pCi/L	06/15/18 16:02	07/11/18 12:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.14		0.493	0.531	1.00	0.583	pCi/L	06/15/18 17:02	07/11/18 09:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:43*	*1*
Y Carrier	*77.0*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:43*	*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	4.88		0.790	0.850	5.00	0.583	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.88				SU			06/07/18 14:42	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Client Sample ID: MW-14

Date Collected: 06/07/18 14:42
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	200	402495	06/25/18 20:10	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:02	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	403212	07/02/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 11:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:16	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:43	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/07/18 14:42	CDH	TAL PEN

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Metals

Prep Batch: 402138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2 - DL	MW-14	Total Recoverable	Water	3005A	
400-154881-2	MW-14	Total Recoverable	Water	3005A	
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-154881-B-7-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-154881-B-7-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 402495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2 - DL	MW-14	Total Recoverable	Water	6020	402138
400-154881-2	MW-14	Total Recoverable	Water	6020	402138
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	6020	402138
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	6020	402138
400-154881-B-7-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	402138
400-154881-B-7-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	402138

General Chemistry

Analysis Batch: 400948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	SM 2540C	
MB 400-400948/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400948/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154880-B-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 403212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	SM 4500 Cl- E	
MB 400-403212/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-403212/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 403221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	SM 4500 F C	
MB 400-403221/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403221/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154742-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154742-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154881-A-7 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 403304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	SM 4500 SO4 E	
MB 400-403304/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-403304/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-403304/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-154880-B-3 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154880-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Rad

Prep Batch: 370670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	PrecSep-21	
MB 160-370670/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-370670/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-370670/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 370673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	PrecSep_0	
MB 160-370673/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-370673/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-370673/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 404432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-2	MW-14	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-402138/1-A ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 18:44	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 18:44	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 18:44	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 18:44	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 18:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 18:44	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 18:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 18:44	5

Lab Sample ID: LCS 400-402138/2-A
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0515		mg/L		103	80 - 120
Barium	0.0500	0.0487		mg/L		97	80 - 120
Beryllium	0.0500	0.0486		mg/L		97	80 - 120
Boron	0.100	0.0977		mg/L		98	80 - 120
Calcium	5.00	4.94		mg/L		99	80 - 120
Chromium	0.0500	0.0502		mg/L		100	80 - 120
Cobalt	0.0500	0.0506		mg/L		101	80 - 120
Lithium	0.0500	0.0531		mg/L		106	80 - 120
Molybdenum	0.0500	0.0488		mg/L		98	80 - 120
Selenium	0.0500	0.0525		mg/L		105	80 - 120

Lab Sample ID: 400-154881-B-7-B MS ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00046	U	0.0500	0.0534		mg/L		107	75 - 125
Barium	0.017		0.0500	0.0679		mg/L		102	75 - 125
Beryllium	0.00034	U	0.0500	0.0494		mg/L		99	75 - 125
Boron	0.027	I	0.100	0.131		mg/L		104	75 - 125
Calcium	32		5.00	38.0		mg/L		115	75 - 125
Chromium	0.0029		0.0500	0.0544		mg/L		103	75 - 125
Cobalt	0.00040	U	0.0500	0.0528		mg/L		106	75 - 125
Lithium	0.0051		0.0500	0.0518		mg/L		93	75 - 125
Molybdenum	0.00085	U	0.0500	0.0483		mg/L		97	75 - 125
Selenium	0.00024	U	0.0500	0.0519		mg/L		104	75 - 125

Lab Sample ID: 400-154881-B-7-C MSD ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00046	U	0.0500	0.0528		mg/L		106	75 - 125	1	20

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

Lab Sample ID: 400-154881-B-7-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402495 — **Prep Batch: 402138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.017		0.0500	0.0647		mg/L		95	75 - 125	5	20
Beryllium	0.00034	U	0.0500	0.0480		mg/L		96	75 - 125	3	20
Boron	0.027	I	0.100	0.129		mg/L		102	75 - 125	1	20
Calcium	32		5.00	37.0		mg/L		96	75 - 125	2	20
Chromium	0.0029		0.0500	0.0542		mg/L		103	75 - 125	0	20
Cobalt	0.00040	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Lithium	0.0051		0.0500	0.0514		mg/L		93	75 - 125	1	20
Molybdenum	0.00085	U	0.0500	0.0480		mg/L		96	75 - 125	1	20
Selenium	0.00024	U	0.0500	0.0521		mg/L		104	75 - 125	0	20

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

Lab Sample ID: MB 400-400948/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 18:25	1

Lab Sample ID: LCS 400-400948/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	266		mg/L		91	78 - 122

Lab Sample ID: 400-154880-B-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	700		696		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-403212/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 08:55	1

Lab Sample ID: LCS 400-403212/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.5		mg/L		105	90 - 110

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

Lab Sample ID: 400-154880-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	43		10.0	49.8	J3	mg/L		71	73 - 120		

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-403221/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 10:13	1

Lab Sample ID: LCS 400-403221/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

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

Lab Sample ID: 400-154742-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125		

Lab Sample ID: 400-154742-B-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125	0	4

Lab Sample ID: 400-154881-A-7 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.19			0.190		mg/L				0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-403304/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			07/02/18 14:47	1

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

Lab Sample ID: LCS 400-403304/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	16.0		mg/L		107	90 - 110		

Lab Sample ID: MRL 400-403304/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.56		mg/L		111	50 - 150		

Lab Sample ID: 400-154880-B-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	390		300	385	J3	mg/L		-2	77 - 128		

Lab Sample ID: 400-154880-B-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	390		300	386	J3	mg/L		-1	77 - 128	0	5

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-370670/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03659	U	0.228	0.228	1.00	0.444	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Lab Sample ID: LCS 160-370670/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.7	17.09		2.12	1.00	0.361	pCi/L	109	68 - 137		

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

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

Lab Sample ID: LCSD 160-370670/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.7	15.22		1.94	1.00	0.380	pCi/L	97	68 - 137	0.46	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-370673/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374835 — **Prep Batch: 370673**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4235	U	0.365	0.367	1.00	0.583	pCi/L	06/15/18 17:02	07/11/18 09:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:46*	*1*
Y Carrier	*69.2*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:46*	*1*

Lab Sample ID: LCS 160-370673/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374836 — **Prep Batch: 370673**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			10.9	11.13		1.32	1.00	0.497	pCi/L	102	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*85.6*		*40 - 110*

Lab Sample ID: LCSD 160-370673/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374836 — **Prep Batch: 370673**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			10.9	9.499		1.26	1.00	0.645	pCi/L	87	56 - 140	0.63	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*65.0*		*40 - 110*

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: Ash Pond

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

Lab Sample ID: 180-78700-A-6 DU
Matrix: Water
Analysis Batch: 375258

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Combined Radium 226 + 228	0.210	U		0.5506		0.223	5.00	0.307	pCi/L			0.80	

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

Chain of Custody Record

TestAmerica

Client Information	Sampler: Rick Hagendorfer	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-74588-29346.2
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site: Ash Pond	SSOW#:			

Analysis Requested

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)	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	Boron, Calcium, AS, Ra, Beryllium	Cr, Co, Lithium, Molybdenum	Se								Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	D											X	
MW-14	6-7-18	1442	G	Water			X		X	X	X	X								3	
				Water																	
				Water																	
				Water																	

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
[signature]	6-8-18 1130	RDH EW	Kirkston Hagendorfer	06/8/18 11:34	RDH
Kirkston Hagendorfer	06/8/18 1:50	RDH	[signature]	6.8.18 1350	TA Pen
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:

Ver: 08/04/2015

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154881-2
SDG Number: Ash Pond

Login Number: 154881
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, 0.0°C, 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: Gulf Power Company

Job Number: 400-154881-2
SDG Number: Ash Pond

Login Number: 154881
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/12/18 05:09 PM

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	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: 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	09-01-19
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	10-09-18
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	09-30-19
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	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

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

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

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-2
SDG: 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	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	10-31-18 *

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-154881-3
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant
Revision: 1

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
9/7/2018 10:35:04 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 18
Receipt Checklists 19
Certification Summary 21

Job ID: 400-154881-3

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154881-3

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-13 (400-154881-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-13 (400-154881-3).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-370670: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-13 (400-154881-3). 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 160-370670: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-13 (400-154881-3).

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-154881-3). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-154881-3). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-154881-3). Elevated reporting limits (RLs) are provided.

Report revised to add missing QC.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Client Sample ID: MW-13 — Lab Sample ID: 400-154881-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0016		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.089		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.20		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.042		0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00031	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	15		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	670		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	8200		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	4300		200	60	mg/L	100		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	840		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.86				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154881-3	MW-13	Water	06/07/18 11:22	06/08/18 13:50

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Client Sample ID: MW-13

Date Collected: 06/07/18 11:22
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:07	5
Barium	0.089		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:07	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:07	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:07	5
Lithium	0.20		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:07	5
Molybdenum	0.042		0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:07	5
Selenium	0.00031	I	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:07	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15		2.0	0.84	mg/L		06/22/18 11:58	06/25/18 20:14	200
Calcium	670		10	5.0	mg/L		06/22/18 11:58	06/25/18 20:14	200

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8200		130	85	mg/L			06/13/18 18:25	1
Chloride	4300		200	60	mg/L			07/02/18 10:46	100
Fluoride	0.050	I	0.10	0.032	mg/L			07/02/18 11:27	1
Sulfate	840		150	42	mg/L			07/02/18 15:20	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	8.98		1.12	1.38	1.00	0.396	pCi/L	06/15/18 16:02	07/11/18 12:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.95		0.716	0.901	1.00	0.569	pCi/L	06/15/18 17:02	07/11/18 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*
Y Carrier	*73.6*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	14.9		1.33	1.65	5.00	0.569	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.86				SU			06/07/18 11:22	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Client Sample ID: MW-13

Date Collected: 06/07/18 11:22
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	200	402495	06/25/18 20:14	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:07	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		100	403212	07/02/18 10:46	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 11:27	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:20	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/07/18 11:22	CDH	TAL PEN

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Metals

Prep Batch: 402138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total Recoverable	Water	3005A	
400-154881-3 - DL	MW-13	Total Recoverable	Water	3005A	
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-154881-B-7-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-154881-B-7-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 402495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3 - DL	MW-13	Total Recoverable	Water	6020	402138
400-154881-3	MW-13	Total Recoverable	Water	6020	402138
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	6020	402138
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	6020	402138
400-154881-B-7-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	402138
400-154881-B-7-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	402138

General Chemistry

Analysis Batch: 400948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	SM 2540C	
MB 400-400948/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400948/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154880-B-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 403212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	SM 4500 Cl- E	
MB 400-403212/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-403212/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 403221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	SM 4500 F C	
MB 400-403221/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403221/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154742-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154742-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154881-A-7 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 403304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	SM 4500 SO4 E	
MB 400-403304/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-403304/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-403304/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-154880-B-3 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154880-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Rad

Prep Batch: 370670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	PrecSep-21	
MB 160-370670/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-370670/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-370670/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 370673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	PrecSep_0	
MB 160-370673/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-370673/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-370673/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 404432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-3	MW-13	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-402138/1-A ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 18:44	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 18:44	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 18:44	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 18:44	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 18:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 18:44	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 18:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 18:44	5

Lab Sample ID: LCS 400-402138/2-A
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0515		mg/L		103	80 - 120
Barium	0.0500	0.0487		mg/L		97	80 - 120
Beryllium	0.0500	0.0486		mg/L		97	80 - 120
Boron	0.100	0.0977		mg/L		98	80 - 120
Calcium	5.00	4.94		mg/L		99	80 - 120
Chromium	0.0500	0.0502		mg/L		100	80 - 120
Cobalt	0.0500	0.0506		mg/L		101	80 - 120
Lithium	0.0500	0.0531		mg/L		106	80 - 120
Molybdenum	0.0500	0.0488		mg/L		98	80 - 120
Selenium	0.0500	0.0525		mg/L		105	80 - 120

Lab Sample ID: 400-154881-B-7-B MS ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00046	U	0.0500	0.0534		mg/L		107	75 - 125
Barium	0.017		0.0500	0.0679		mg/L		102	75 - 125
Beryllium	0.00034	U	0.0500	0.0494		mg/L		99	75 - 125
Boron	0.027	I	0.100	0.131		mg/L		104	75 - 125
Calcium	32		5.00	38.0		mg/L		115	75 - 125
Chromium	0.0029		0.0500	0.0544		mg/L		103	75 - 125
Cobalt	0.00040	U	0.0500	0.0528		mg/L		106	75 - 125
Lithium	0.0051		0.0500	0.0518		mg/L		93	75 - 125
Molybdenum	0.00085	U	0.0500	0.0483		mg/L		97	75 - 125
Selenium	0.00024	U	0.0500	0.0519		mg/L		104	75 - 125

Lab Sample ID: 400-154881-B-7-C MSD ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00046	U	0.0500	0.0528		mg/L		106	75 - 125	1	20

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

Lab Sample ID: 400-154881-B-7-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402495 — **Prep Batch: 402138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.017		0.0500	0.0647		mg/L		95	75 - 125	5	20
Beryllium	0.00034	U	0.0500	0.0480		mg/L		96	75 - 125	3	20
Boron	0.027	I	0.100	0.129		mg/L		102	75 - 125	1	20
Calcium	32		5.00	37.0		mg/L		96	75 - 125	2	20
Chromium	0.0029		0.0500	0.0542		mg/L		103	75 - 125	0	20
Cobalt	0.00040	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Lithium	0.0051		0.0500	0.0514		mg/L		93	75 - 125	1	20
Molybdenum	0.00085	U	0.0500	0.0480		mg/L		96	75 - 125	1	20
Selenium	0.00024	U	0.0500	0.0521		mg/L		104	75 - 125	0	20

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

Lab Sample ID: MB 400-400948/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 18:25	1

Lab Sample ID: LCS 400-400948/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	266		mg/L		91	78 - 122

Lab Sample ID: 400-154880-B-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	700		696		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-403212/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 08:55	1

Lab Sample ID: LCS 400-403212/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.5		mg/L		105	90 - 110

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

Lab Sample ID: 400-154880-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	43		10.0	49.8	J3	mg/L		71	73 - 120		

Lab Sample ID: 400-154880-B-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	43		10.0	49.5	J3	mg/L		67	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-403221/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 10:13	1

Lab Sample ID: LCS 400-403221/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

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

Lab Sample ID: 400-154742-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125		

Lab Sample ID: 400-154742-B-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125	0	4

Lab Sample ID: 400-154881-A-7 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.19			0.190		mg/L				0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-403304/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			07/02/18 14:47	1

Lab Sample ID: LCS 400-403304/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	16.0		mg/L		107	90 - 110

Lab Sample ID: MRL 400-403304/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.56		mg/L		111	50 - 150

Lab Sample ID: 400-154880-B-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	390		300	385	J3	mg/L		-2	77 - 128

Lab Sample ID: 400-154880-B-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	390		300	386	J3	mg/L		-1	77 - 128	0	5

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-370670/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03659	U	0.228	0.228	1.00	0.444	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

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

Lab Sample ID: LCS 160-370670/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.7	17.09		2.12	1.00	0.361	pCi/L	109	68 - 137		

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

Lab Sample ID: LCSD 160-370670/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.7	15.22		1.94	1.00	0.380	pCi/L	97	68 - 137	0.46	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-370673/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374835 — **Prep Batch: 370673**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4235	U	0.365	0.367	1.00	0.583	pCi/L	06/15/18 17:02	07/11/18 09:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:46*	*1*
Y Carrier	*69.2*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:46*	*1*

Lab Sample ID: LCS 160-370673/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374836 — **Prep Batch: 370673**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			10.9	11.13		1.32	1.00	0.497	pCi/L	102	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*85.6*		*40 - 110*

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

Lab Sample ID: LCSD 160-370673/2-A
Matrix: Water
Analysis Batch: 374836

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 370673

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			10.9	9.499		1.26	1.00	0.645	pCi/L	87	56 - 140	0.63	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*65.0*		*40 - 110*

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

Chain of Custody Record

TestAmerica

Client Information	Sampler: Rick Hagendorfer	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-74588-29346.2
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site: Ash Pond	SSOW#:			

Analysis Requested

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)	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - Sb,As,Ba,Be,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	Boron, Calcium, As, Ba, Beryllium	Cr, Co, Lithium, Molybdenum	Se									Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D													
MW-13	6-7-18	1122	G	Water			X		X	X	X	X									3	
				Water																		
				Water																		
				Water																		

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:

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
[signature]	6-8-18 1130	RDH Env.	Perreton Hagendorfer	06/8/18 11:34	RDH
Perreton Hagendorfer	06/8/18 1150	RDH	[signature]	6-8-18 1350	TA-Pen

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154881-3
SDG Number: Ash Pond

Login Number: 154881
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, 0.0°C, 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: Gulf Power Company

Job Number: 400-154881-3
SDG Number: Ash Pond

Login Number: 154881
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/12/18 05:09 PM

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	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: 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	09-30-19
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	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

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

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

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-3
SDG: 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	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	10-31-18 *

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-154881-5
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
7/16/2018 5:56:35 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 18
Receipt Checklists 19
Certification Summary 21

Job ID: 400-154881-5

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154881-5

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-11 (400-154881-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-11 (400-154881-5).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-370670: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-11 (400-154881-5). 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 160-370670: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur.
MW-11 (400-154881-5).

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-154881-5). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-154881-5). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-154881-5). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Client Sample ID: MW-11 — Lab Sample ID: 400-154881-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.018		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.078		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.00092	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Boron	3.7		0.50	0.21	mg/L	50		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0048		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0038	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.013	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00060	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	3400		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2000		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Sulfate	240		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.39				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154881-5	MW-11	Water	06/07/18 08:45	06/08/18 13:50

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Client Sample ID: MW-11

Date Collected: 06/07/18 08:45
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.018		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:16	5
Barium	0.078		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:16	5
Beryllium	0.00092	I	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:16	5
Boron	3.7		0.50	0.21	mg/L		06/22/18 11:58	06/25/18 20:23	50
Calcium	100		0.25	0.13	mg/L		06/22/18 11:58	06/25/18 22:16	5
Chromium	0.0048		0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:16	5
Lithium	0.0038	I	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:16	5
Molybdenum	0.013	I	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:16	5
Selenium	0.00060	I	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:16	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3400		50	34	mg/L			06/13/18 12:30	1
Chloride	2000		120	36	mg/L			07/02/18 09:43	60
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:18	1
Sulfate	240		150	42	mg/L			07/02/18 15:20	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	17.4		1.50	2.17	1.00	0.402	pCi/L	06/15/18 16:02	07/11/18 12:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.20		0.732	0.928	1.00	0.666	pCi/L	06/15/18 17:02	07/11/18 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*
Y Carrier	*75.1*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	23.6		1.67	2.36	5.00	0.666	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.39				SU			06/07/18 08:45	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Client Sample ID: MW-11

Date Collected: 06/07/18 08:45
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		50	402495	06/25/18 20:23	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:16	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400955	06/13/18 12:30	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	403212	07/02/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:18	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:20	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/07/18 08:45	CDH	TAL PEN

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Metals

Prep Batch: 402138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total Recoverable	Water	3005A	
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-154881-B-7-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-154881-B-7-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 402495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total Recoverable	Water	6020	402138
400-154881-5	MW-11	Total Recoverable	Water	6020	402138
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	6020	402138
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	6020	402138
400-154881-B-7-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	402138
400-154881-B-7-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	402138

General Chemistry

Analysis Batch: 400955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	SM 2540C	
MB 400-400955/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400955/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154761-A-29 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 403212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
MB 400-403212/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-403212/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-403212/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 403294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	SM 4500 F C	
MB 400-403294/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403294/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154881-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154881-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154881-A-19 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 403304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
MB 400-403304/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-403304/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-403304/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-154880-B-3 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154880-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Rad

Prep Batch: 370670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	PrecSep-21	
MB 160-370670/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-370670/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-370670/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 370673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	PrecSep_0	
MB 160-370673/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-370673/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-370673/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 404432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-5	MW-11	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-402138/1-A ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 18:44	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 18:44	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 18:44	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 18:44	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 18:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 18:44	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 18:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 18:44	5

Lab Sample ID: LCS 400-402138/2-A
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0515		mg/L		103	80 - 120
Barium	0.0500	0.0487		mg/L		97	80 - 120
Beryllium	0.0500	0.0486		mg/L		97	80 - 120
Boron	0.100	0.0977		mg/L		98	80 - 120
Calcium	5.00	4.94		mg/L		99	80 - 120
Chromium	0.0500	0.0502		mg/L		100	80 - 120
Cobalt	0.0500	0.0506		mg/L		101	80 - 120
Lithium	0.0500	0.0531		mg/L		106	80 - 120
Molybdenum	0.0500	0.0488		mg/L		98	80 - 120
Selenium	0.0500	0.0525		mg/L		105	80 - 120

Lab Sample ID: 400-154881-B-7-B MS ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00046	U	0.0500	0.0534		mg/L		107	75 - 125
Barium	0.017		0.0500	0.0679		mg/L		102	75 - 125
Beryllium	0.00034	U	0.0500	0.0494		mg/L		99	75 - 125
Boron	0.027	I	0.100	0.131		mg/L		104	75 - 125
Calcium	32		5.00	38.0		mg/L		115	75 - 125
Chromium	0.0029		0.0500	0.0544		mg/L		103	75 - 125
Cobalt	0.00040	U	0.0500	0.0528		mg/L		106	75 - 125
Lithium	0.0051		0.0500	0.0518		mg/L		93	75 - 125
Molybdenum	0.00085	U	0.0500	0.0483		mg/L		97	75 - 125
Selenium	0.00024	U	0.0500	0.0519		mg/L		104	75 - 125

Lab Sample ID: 400-154881-B-7-C MSD ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00046	U	0.0500	0.0528		mg/L		106	75 - 125	1	20

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

Lab Sample ID: 400-154881-B-7-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402495 — **Prep Batch: 402138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.017		0.0500	0.0647		mg/L		95	75 - 125	5	20
Beryllium	0.00034	U	0.0500	0.0480		mg/L		96	75 - 125	3	20
Boron	0.027	I	0.100	0.129		mg/L		102	75 - 125	1	20
Calcium	32		5.00	37.0		mg/L		96	75 - 125	2	20
Chromium	0.0029		0.0500	0.0542		mg/L		103	75 - 125	0	20
Cobalt	0.00040	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Lithium	0.0051		0.0500	0.0514		mg/L		93	75 - 125	1	20
Molybdenum	0.00085	U	0.0500	0.0480		mg/L		96	75 - 125	1	20
Selenium	0.00024	U	0.0500	0.0521		mg/L		104	75 - 125	0	20

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

Lab Sample ID: MB 400-400955/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400955

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 12:30	1

Lab Sample ID: LCS 400-400955/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400955

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	260		mg/L		89	78 - 122

Lab Sample ID: 400-154761-A-29 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400955

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	220		222		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-403212/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 08:55	1

Lab Sample ID: LCS 400-403212/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.5		mg/L		105	90 - 110

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

Lab Sample ID: MRL 400-403212/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			2.00	1.72	I	mg/L		86	50 - 150		

Lab Sample ID: 400-154880-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	43		10.0	49.8	J3	mg/L		71	73 - 120		

Lab Sample ID: 400-154880-B-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	43		10.0	49.5	J3	mg/L		67	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-403294/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 16:54	1

Lab Sample ID: LCS 400-403294/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.87		mg/L		97	90 - 110		

Lab Sample ID: 400-154881-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.15		1.00	1.12		mg/L		97	75 - 125		

Lab Sample ID: 400-154881-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.15		1.00	1.10		mg/L		95	75 - 125	2	4

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-154881-A-19 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-403304/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			07/02/18 14:47	1

Lab Sample ID: LCS 400-403304/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	16.0		mg/L		107	90 - 110		

Lab Sample ID: MRL 400-403304/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.56		mg/L		111	50 - 150		

Lab Sample ID: 400-154880-B-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	390		300	385	J3	mg/L		-2	77 - 128		

Lab Sample ID: 400-154880-B-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	390		300	386	J3	mg/L		-1	77 - 128	0	5

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-370670/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03659	U	0.228	0.228	1.00	0.444	pCi/L	06/15/18 16:02	07/11/18 14:24	1

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

Lab Sample ID: MB 160-370670/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110	06/15/18 16:02	07/11/18 14:24	1

Lab Sample ID: LCS 160-370670/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.7	17.09		2.12	1.00	0.361	pCi/L	109	68 - 137		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	100		40 - 110

Lab Sample ID: LCSD 160-370670/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.7	15.22		1.94	1.00	0.380	pCi/L	97	68 - 137	0.46	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	101		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-370673/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374835 — **Prep Batch: 370673**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4235	U	0.365	0.367	1.00	0.583	pCi/L	06/15/18 17:02	07/11/18 09:46	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110	06/15/18 17:02	07/11/18 09:46	1
Y Carrier	69.2		40 - 110	06/15/18 17:02	07/11/18 09:46	1

Lab Sample ID: LCS 160-370673/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374836 — **Prep Batch: 370673**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			10.9	11.13		1.32	1.00	0.497	pCi/L	102	56 - 140		

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

Lab Sample ID: LCS 160-370673/1-A
Matrix: Water
Analysis Batch: 374836

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 370673

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*85.6*		*40 - 110*

Lab Sample ID: LCSD 160-370673/2-A
Matrix: Water
Analysis Batch: 374836

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 370673

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			10.9	9.499		1.26	1.00	0.645	pCi/L	87	56 - 140	0.63	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*65.0*		*40 - 110*

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

Lab Sample ID: 180-78700-A-6 DU
Matrix: Water
Analysis Batch: 375258

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Combined Radium 226 + 228	0.210	U		0.5506		0.223	5.00	0.307	pCi/L			0.80	

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

Chain of Custody Record

TestAmerica

Client Information	Sampler: Rick Hagendorfer	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-74588-29346.2
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site: Ash Pond	SSOW#:			

Analysis Requested

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)	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	9315_Ra228, 9320_Ra228, Ra226Ra228_GFPC	Boron, Calcium, As, Ba, Beryllium	Cr, Co, Lithium, Molybdenum	Se								Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	D	D											X	
MW-11	6-7-18	0845	G	Water			X		X	X	X	X								3	
				Water																	
				Water																	
				Water																	

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
[signature]	6-8-18 1130	RDH	Percelon Hagendorfer	06/8/18 1134	RDH
Percelon Hagendorfer	06/8/18 1:50	RDH	[signature]	6.8.18 1350	TA-Pen

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver. 08/04/2016

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154881-5
SDG Number: Ash Pond

Login Number: 154881
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, 0.0°C, 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: Gulf Power Company

Job Number: 400-154881-5
SDG Number: Ash Pond

Login Number: 154881
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/12/18 05:09 PM

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	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-5
SDG: 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.

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: 400-154881-7
TestAmerica Sample Delivery Group: Ash Pond
Client Project/Site: CCR Smith Plant
Revision: 1

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
9/7/2018 10:36:05 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 5
Method Summary 10
Sample Summary 11
Client Sample Results 12
Definitions 27
Chronicle 28
QC Association 35
QC Sample Results 41
Chain of Custody 53
Receipt Checklists 55
Certification Summary 57

Job ID: 400-154881-7

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154881-7

RAD
Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-02 (400-154881-7), MW-03 (400-154881-8), MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), MW-12 (400-154881-14), DUP-01 (400-154881-15), DUP-02 (400-154881-16), DUP-03 (400-154881-17), EB-01 (400-154881-18), FB-01 (400-154881-19) and EB-02 (400-154881-20). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-370673: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-02 (400-154881-7), MW-03 (400-154881-8), MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), MW-12 (400-154881-14), DUP-01 (400-154881-15), DUP-02 (400-154881-16), DUP-03 (400-154881-17), EB-01 (400-154881-18), FB-01 (400-154881-19) and EB-02 (400-154881-20).

Method(s) PrecSep_0: Radium 228 Prep Batch 160-370793: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: FB-02 (400-154881-21). 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 160-370670: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-02 (400-154881-7), MW-03 (400-154881-8), MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), MW-12 (400-154881-14), DUP-01 (400-154881-15), DUP-02 (400-154881-16), DUP-03 (400-154881-17), EB-01 (400-154881-18), FB-01 (400-154881-19) and EB-02 (400-154881-20). 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 160-370670: Sample aliquots 400-154881-1,2,3,4,5,6,7, and 10 were reduced due to potential matrix interference. Samples were yellow, murky, and had strong odors similar to that of sulfur. Sample aliquots 400154881-8,9,11,12,13,14,15,16,17,18,19, and 20 were reduced due to potential matrix interference. Samples were murky and had strong odors similar to that of sulfur. MW-02 (400-154881-7), MW-03 (400-154881-8), MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), MW-12 (400-154881-14), DUP-01 (400-154881-15), DUP-02 (400-154881-16), DUP-03 (400-154881-17), EB-01 (400-154881-18), FB-01 (400-154881-19) and EB-02 (400-154881-20).

Method(s) PrecSep-21: Radium 226 Prep Batch 160-370790: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: FB-02 (400-154881-21). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Metals
Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), DUP-02 (400-154881-16) and DUP-03 (400-154881-17). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 403212 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), MW-12 (400-154881-14), DUP-02 (400-154881-16), DUP-03 (400-154881-17), (400-154909-A-12), (400-154909-A-12 MS) and (400-154909-A-12 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 403252 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS)

Job ID: 400-154881-7 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The CCB contained sulfates 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.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-06 (400-154881-9), MW-07 (400-154881-10), MW-08 (400-154881-11), MW-09 (400-154881-12), MW-10 (400-154881-13), DUP-02 (400-154881-16) and DUP-03 (400-154881-17). Elevated reporting limits (RLs) are provided.

Report revised to add missing QC.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-02 — Lab Sample ID: 400-154881-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.017		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.027	I	0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	32		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0029		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0051		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	160		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	13		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.19		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	4.8	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.47				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-03 — Lab Sample ID: 400-154881-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.018		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0026		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00030	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	46		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	11		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Field pH	4.96				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-06 — Lab Sample ID: 400-154881-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00090	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.058		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0014	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.014		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00025	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	8.4		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	290		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	6100		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	2900		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	560		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-06 (Continued) — Lab Sample ID: 400-154881-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Field pH	5.25				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-07 — Lab Sample ID: 400-154881-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0022		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.060		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium	0.0012	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0018	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0067	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00028	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	3.0		0.25	0.11	mg/L	25		6020	Total Recoverable
Calcium - DL	200		1.3	0.63	mg/L	25		6020	Total Recoverable
Total Dissolved Solids	3200		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	1400		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Sulfate	750		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.31				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-08 — Lab Sample ID: 400-154881-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0020		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.062		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0014	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.0076		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00032	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	15		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	530		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	6000		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	3500		200	60	mg/L	100		SM 4500 Cl- E	Total/NA
Sulfate	910		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	4.73				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-09 — Lab Sample ID: 400-154881-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0030		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.089		0.0025	0.00049	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-09 (Continued) — Lab Sample ID: 400-154881-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0026	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0036	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	9.3		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	280		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	4000		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2200		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	640		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.52				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 400-154881-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0027		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.10		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.00044	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.0054		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0010	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Boron - DL	11		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	500		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	5800		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2700		120	36	mg/L	60		SM 4500 Cl- E	Total/NA
Sulfate	830		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	5.35				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-12 — Lab Sample ID: 400-154881-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.012		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.077		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	30		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	460		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	190		20	6.0	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.3	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.04				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: DUP-01 — Lab Sample ID: 400-154881-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.018		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.037	I	0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	1.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0024	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.012		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	52		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	11		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: DUP-02 — Lab Sample ID: 400-154881-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0012	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.062		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0014	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.0067		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Boron - DL	14		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	510		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	6100		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	3200		200	60	mg/L	100		SM 4500 Cl- E	Total/NA
Sulfate	900		150	42	mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: DUP-03 — Lab Sample ID: 400-154881-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00064	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.060		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0015	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.014		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Boron - DL	9.4		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	290		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	5800		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	3200		140	42	mg/L	70		SM 4500 Cl- E	Total/NA
Fluoride	0.050	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	530		100	28	mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 400-154881-18

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: EB-01 (Continued) — Lab Sample ID: 400-154881-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.00051	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable

Client Sample ID: FB-01 — Lab Sample ID: 400-154881-19

No Detections.

Client Sample ID: EB-02 — Lab Sample ID: 400-154881-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	1.6	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: FB-02 — Lab Sample ID: 400-154881-21

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154881-7	MW-02	Water	06/06/18 14:10	06/08/18 13:50
400-154881-8	MW-03	Water	06/06/18 19:02	06/08/18 13:50
400-154881-9	MW-06	Water	06/08/18 08:29	06/08/18 13:50
400-154881-10	MW-07	Water	06/08/18 10:11	06/08/18 13:50
400-154881-11	MW-08	Water	06/07/18 13:14	06/08/18 13:50
400-154881-12	MW-09	Water	06/07/18 17:21	06/08/18 13:50
400-154881-13	MW-10	Water	06/07/18 19:48	06/08/18 13:50
400-154881-14	MW-12	Water	06/06/18 16:06	06/08/18 13:50
400-154881-15	DUP-01	Water	06/06/18 06:00	06/08/18 13:50
400-154881-16	DUP-02	Water	06/07/18 07:00	06/08/18 13:50
400-154881-17	DUP-03	Water	06/08/18 06:05	06/08/18 13:50
400-154881-18	EB-01	Water	06/07/18 11:55	06/08/18 13:50
400-154881-19	FB-01	Water	06/07/18 11:50	06/08/18 13:50
400-154881-20	EB-02	Water	06/08/18 09:17	06/08/18 13:50
400-154881-21	FB-02	Water	06/08/18 09:12	06/08/18 13:50

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-02

Date Collected: 06/06/18 14:10
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 19:11	5
Barium	**0.017**		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 19:11	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 19:11	5
Boron	**0.027**	**I**	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 19:11	5
Calcium	**32**		0.25	0.13	mg/L		06/22/18 11:58	06/25/18 19:11	5
Chromium	**0.0029**		0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 19:11	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 19:11	5
Lithium	**0.0051**		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 19:11	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 19:11	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 19:11	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**160**		5.0	3.4	mg/L			06/13/18 16:43	1
Chloride	**13**		2.0	0.60	mg/L			07/02/18 07:36	1
Fluoride	**0.19**		0.10	0.032	mg/L			07/02/18 11:02	1
Sulfate	**4.8**	**I**	5.0	1.4	mg/L			07/01/18 12:37	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.02**		0.390	0.400	1.00	0.378	pCi/L	06/15/18 16:02	07/11/18 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:30*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.304	U	0.267	0.269	1.00	0.426	pCi/L	06/15/18 17:02	07/11/18 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*
Y Carrier	*87.5*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.32**		0.473	0.482	5.00	0.426	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.47**				SU			06/06/18 14:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-03

Date Collected: 06/06/18 19:02
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 19:56	5
Barium	**0.018**		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 19:56	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 19:56	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 19:56	5
Calcium	**1.8**		0.25	0.13	mg/L		06/22/18 11:58	06/25/18 19:56	5
Chromium	**0.0026**		0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 19:56	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 19:56	5
Lithium	**0.011**		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 19:56	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 19:56	5
Selenium	**0.00030**	**I**	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 19:56	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**46**		5.0	3.4	mg/L			06/13/18 16:43	1
Chloride	**11**		2.0	0.60	mg/L			07/02/18 07:43	1
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			07/02/18 11:07	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/01/18 12:37	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.830**		0.372	0.379	1.00	0.384	pCi/L	06/15/18 16:02	07/11/18 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:30*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.360	U	0.330	0.331	1.00	0.530	pCi/L	06/15/18 17:02	07/11/18 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*
Y Carrier	*84.1*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.19**		0.497	0.503	5.00	0.530	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.96**				SU			06/06/18 19:02	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-06

Date Collected: 06/08/18 08:29
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00090	I	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:25	5
Barium	0.058		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:25	5
Beryllium	0.0014	I	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:25	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:25	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:25	5
Lithium	0.014		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:25	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:25	5
Selenium	0.00025	I	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:25	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.4		1.0	0.42	mg/L		06/22/18 11:58	06/25/18 20:55	100
Calcium	290		5.0	2.5	mg/L		06/22/18 11:58	06/25/18 20:55	100

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6100		130	85	mg/L			06/15/18 15:50	1
Chloride	2900		120	36	mg/L			07/02/18 09:54	60
Fluoride	0.050	I	0.10	0.032	mg/L			07/02/18 18:04	1
Sulfate	560		150	42	mg/L			07/02/18 15:33	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	12.1		1.22	1.64	1.00	0.466	pCi/L	06/15/18 16:02	07/11/18 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:30*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	14.8		0.934	1.65	1.00	0.448	pCi/L	06/15/18 17:02	07/11/18 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*
Y Carrier	*85.2*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	26.9		1.54	2.33	5.00	0.466	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.25				SU			06/08/18 08:29	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-07

Date Collected: 06/08/18 10:11
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0022		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:29	5
Barium	0.060		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:29	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:29	5
Chromium	0.0012	I	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:29	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:29	5
Lithium	0.0018	I	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:29	5
Molybdenum	0.0067	I	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:29	5
Selenium	0.00028	I	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:29	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.25	0.11	mg/L		06/22/18 11:58	06/25/18 20:59	25
Calcium	200		1.3	0.63	mg/L		06/22/18 11:58	06/25/18 20:59	25

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3200		50	34	mg/L			06/15/18 15:50	1
Chloride	1400		120	36	mg/L			07/02/18 09:54	60
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 18:07	1
Sulfate	750		150	42	mg/L			07/02/18 15:33	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	18.6		1.54	2.27	1.00	0.388	pCi/L	06/15/18 16:02	07/11/18 12:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*06/15/18 16:02*	*07/11/18 12:30*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.01		0.469	0.545	1.00	0.422	pCi/L	06/15/18 17:02	07/11/18 09:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*
Y Carrier	*87.1*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:44*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	21.6		1.61	2.33	5.00	0.422	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.31				SU			06/08/18 10:11	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-08

Date Collected: 06/07/18 13:14
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0020		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:34	5
Barium	0.062		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:34	5
Beryllium	0.0014	I	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:34	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:34	5
Lithium	0.0076		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:34	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:34	5
Selenium	0.00032	I	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:34	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15		1.0	0.42	mg/L		06/22/18 11:58	06/25/18 21:04	100
Calcium	530		5.0	2.5	mg/L		06/22/18 11:58	06/25/18 21:04	100

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000		130	85	mg/L			06/13/18 18:25	1
Chloride	3500		200	60	mg/L			07/02/18 10:46	100
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:24	1
Sulfate	910		150	42	mg/L			07/02/18 15:25	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	17.4		1.44	2.13	1.00	0.349	pCi/L	06/15/18 16:02	07/11/18 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	20.1		1.17	2.19	1.00	0.564	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*77.0*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	37.5		1.86	3.05	5.00	0.564	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.73				SU			06/07/18 13:14	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-09

Date Collected: 06/07/18 17:21
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0030		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 22:38	5
Barium	0.089		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 22:38	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 22:38	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 22:38	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 22:38	5
Lithium	0.0026	I	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 22:38	5
Molybdenum	0.0036	I	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 22:38	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 22:38	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.3		1.0	0.42	mg/L		06/22/18 11:58	06/25/18 21:08	100
Calcium	280		5.0	2.5	mg/L		06/22/18 11:58	06/25/18 21:08	100

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4000		50	34	mg/L			06/13/18 18:25	1
Chloride	2200		120	36	mg/L			07/02/18 09:46	60
Fluoride	0.050	I	0.10	0.032	mg/L			07/02/18 17:27	1
Sulfate	640		150	42	mg/L			07/02/18 15:25	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	9.54		1.07	1.37	1.00	0.362	pCi/L	06/15/18 16:02	07/11/18 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.35		0.541	0.673	1.00	0.443	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*88.2*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	13.9		1.20	1.53	5.00	0.443	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.52				SU			06/07/18 17:21	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-10

Date Collected: 06/07/18 19:48
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-13

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0027		0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 23:05	5
Barium	0.10		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 23:05	5
Beryllium	0.00044	I	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 23:05	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 23:05	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 23:05	5
Lithium	0.0054		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 23:05	5
Molybdenum	0.0010	I	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 23:05	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 23:05	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11		2.0	0.84	mg/L		06/22/18 11:58	06/25/18 21:13	200
Calcium	500		10	5.0	mg/L		06/22/18 11:58	06/25/18 21:13	200

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5800		50	34	mg/L			06/13/18 18:25	1
Chloride	2700		120	36	mg/L			07/02/18 09:46	60
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:31	1
Sulfate	830		150	42	mg/L			07/02/18 15:25	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	6.78		0.892	1.08	1.00	0.366	pCi/L	06/15/18 16:02	07/11/18 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	11.7		0.883	1.39	1.00	0.447	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*78.9*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	18.5		1.26	1.76	5.00	0.447	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.35				SU			06/07/18 19:48	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-12

Date Collected: 06/06/18 16:06
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 20:01	5
Barium	**0.012**		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 20:01	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 20:01	5
Boron	**0.077**		0.050	0.021	mg/L		06/22/18 11:58	06/25/18 20:01	5
Calcium	**30**		0.25	0.13	mg/L		06/22/18 11:58	06/25/18 20:01	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 20:01	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 20:01	5
Lithium	**0.011**		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 20:01	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 20:01	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 20:01	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**460**		5.0	3.4	mg/L			06/12/18 13:11	1
Chloride	**190**		20	6.0	mg/L			07/02/18 08:09	10
Fluoride	**0.12**		0.10	0.032	mg/L			07/02/18 11:10	1
Sulfate	**2.3**	**I**	5.0	1.4	mg/L			07/01/18 12:37	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.05**		0.543	0.574	1.00	0.418	pCi/L	06/15/18 16:02	07/11/18 14:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.270	U	0.292	0.293	1.00	0.477	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*92.0*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	**2.32**		0.617	0.644	5.00	0.477	pCi/L		07/12/18 17:53	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.04**				SU			06/06/18 16:06	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: DUP-01

Date Collected: 06/06/18 06:00
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-15

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 21:26	5
Barium	**0.018**		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 21:26	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 21:26	5
Boron	**0.037**	**I**	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 21:26	5
Calcium	**1.8**		0.25	0.13	mg/L		06/22/18 11:58	06/25/18 21:26	5
Chromium	**0.0024**	**I**	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 21:26	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 21:26	5
Lithium	**0.012**		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 21:26	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 21:26	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 21:26	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**52**		5.0	3.4	mg/L			06/12/18 13:11	1
Chloride	**11**		2.0	0.60	mg/L			07/02/18 07:43	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 11:12	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/01/18 12:37	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.18**		0.417	0.430	1.00	0.362	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.546**		0.322	0.326	1.00	0.488	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*89.3*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.73**		0.527	0.540	5.00	0.488	pCi/L		07/12/18 17:53	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: DUP-02

Date Collected: 06/07/18 07:00
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	I	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 23:10	5
Barium	0.062		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 23:10	5
Beryllium	0.0014	I	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 23:10	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 23:10	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 23:10	5
Lithium	0.0067		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 23:10	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 23:10	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 23:10	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	14		1.0	0.42	mg/L		06/22/18 11:58	06/26/18 15:01	100
Calcium	510		5.0	2.5	mg/L		06/22/18 11:58	06/26/18 15:01	100

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6100		130	85	mg/L			06/13/18 18:25	1
Chloride	3200		200	60	mg/L			07/02/18 10:46	100
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:33	1
Sulfate	900		150	42	mg/L			07/02/18 15:25	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	15.3		1.39	1.96	1.00	0.432	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	18.7		1.08	2.03	1.00	0.552	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*83.7*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	34.0		1.76	2.82	5.00	0.552	pCi/L		07/12/18 17:53	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: DUP-03

Date Collected: 06/08/18 06:05
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-17

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00064	I	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 23:14	5
Barium	0.060		0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 23:14	5
Beryllium	0.0015	I	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 23:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 23:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 23:14	5
Lithium	0.014		0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 23:14	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 23:14	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 23:14	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.4		1.0	0.42	mg/L		06/22/18 11:58	06/25/18 21:22	100
Calcium	290		5.0	2.5	mg/L		06/22/18 11:58	06/25/18 21:22	100

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5800		130	85	mg/L			06/15/18 15:50	1
Chloride	3200		140	42	mg/L			07/02/18 13:50	70
Fluoride	0.050	I	0.10	0.032	mg/L			07/02/18 18:00	1
Sulfate	530		100	28	mg/L			07/03/18 09:46	20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	15.1		1.38	1.94	1.00	0.388	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	14.2		0.946	1.61	1.00	0.491	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*82.2*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	29.3		1.67	2.52	5.00	0.491	pCi/L		07/12/18 17:53	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: EB-01

Date Collected: 06/07/18 11:55
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-18

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 18:57	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 18:57	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 18:57	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 18:57	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 18:57	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 18:57	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 18:57	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 18:57	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 18:57	5
Selenium	**0.00051**	**I**	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 18:57	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 18:25	1
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 09:05	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:37	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/02/18 14:58	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0609	U	0.179	0.179	1.00	0.349	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0642	U	0.268	0.268	1.00	0.473	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*84.5*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	0.125	U	0.322	0.322	5.00	0.473	pCi/L		07/12/18 17:53	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: FB-01

Date Collected: 06/07/18 11:50
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-19

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 19:02	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 19:02	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 19:02	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 19:02	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 19:02	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 19:02	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 19:02	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 19:02	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 19:02	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 19:02	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 18:25	1
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 09:05	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:46	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/02/18 14:58	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.204	U	0.228	0.229	1.00	0.365	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.121	U	0.309	0.309	1.00	0.536	pCi/L	06/15/18 17:02	07/11/18 09:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*1*
Y Carrier	*75.1*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:45*	*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	0.325	U	0.384	0.385	5.00	0.536	pCi/L		07/12/18 17:53	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: EB-02

Date Collected: 06/08/18 09:17
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-20

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 19:06	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 19:06	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 19:06	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 19:06	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 19:06	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 19:06	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 19:06	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 19:06	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 19:06	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 19:06	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 13:07	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:53	1
Sulfate	**1.6**	**I**	5.0	1.4	mg/L			07/03/18 08:55	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0142	U	0.157	0.157	1.00	0.335	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.106	U	0.270	0.270	1.00	0.467	pCi/L	06/15/18 17:02	07/11/18 09:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:46*	*1*
Y Carrier	*84.5*		*40 - 110*	*06/15/18 17:02*	*07/11/18 09:46*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.120	U	0.312	0.312	5.00	0.467	pCi/L		07/12/18 17:53	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: FB-02

Date Collected: 06/08/18 09:12
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-21

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 23:10	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 23:10	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 23:10	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 12:01	06/22/18 23:10	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 12:01	06/22/18 23:10	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 23:10	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 23:10	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 23:10	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 23:10	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 23:10	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 13:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 17:56	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/03/18 09:02	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.197**		0.137	0.139	1.00	0.176	pCi/L	06/16/18 12:16	07/11/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/16/18 12:16*	*07/11/18 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	0.0156	U	0.177	0.177	1.00	0.318	pCi/L	06/16/18 13:10	07/10/18 14:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:40*	*1*
Y Carrier	*89.7*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:40*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.213	U	0.224	0.225	5.00	0.318	pCi/L		07/12/18 17:53	1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-02
Date Collected: 06/06/18 14:10
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 19:11	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400962	06/13/18 16:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403169	07/02/18 07:36	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 11:02	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403150	07/01/18 12:37	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/06/18 14:10	CDH	TAL PEN

Client Sample ID: MW-03
Date Collected: 06/06/18 19:02
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 19:56	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400962	06/13/18 16:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403169	07/02/18 07:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 11:07	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403150	07/01/18 12:37	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/06/18 19:02	CDH	TAL PEN

Client Sample ID: MW-06
Date Collected: 06/08/18 08:29
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	402495	06/25/18 20:55	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:25	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	403212	07/02/18 09:54	RRC	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 18:04	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:33	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/08/18 08:29	CDH	TAL PEN

Client Sample ID: MW-07 — Lab Sample ID: 400-154881-10

Date Collected: 06/08/18 10:11 — **Matrix: Water**
Date Received: 06/08/18 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402495	06/25/18 20:59	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:29	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	403212	07/02/18 09:54	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 18:07	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:33	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 12:30	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:44	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/08/18 10:11	CDH	TAL PEN

Client Sample ID: MW-08 — Lab Sample ID: 400-154881-11

Date Collected: 06/07/18 13:14 — **Matrix: Water**
Date Received: 06/08/18 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	402495	06/25/18 21:04	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:34	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		100	403212	07/02/18 10:46	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:25	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:23	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-08
Date Collected: 06/07/18 13:14
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404612	06/07/18 13:14	CDH	TAL PEN

Client Sample ID: MW-09
Date Collected: 06/07/18 17:21
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	402495	06/25/18 21:08	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 22:38	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	403212	07/02/18 09:46	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:27	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:25	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:23	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404612	06/07/18 17:21	CDH	TAL PEN

Client Sample ID: MW-10
Date Collected: 06/07/18 19:48
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	200	402495	06/25/18 21:13	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 23:05	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		60	403212	07/02/18 09:46	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:31	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403304	07/02/18 15:25	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:23	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404612	06/07/18 19:48	CDH	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: MW-12
Date Collected: 06/06/18 16:06
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 20:01	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400737	06/12/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		10	403169	07/02/18 08:09	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 11:10	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403150	07/01/18 12:37	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:23	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/06/18 16:06	CDH	TAL PEN

Client Sample ID: DUP-01
Date Collected: 06/06/18 06:00
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 21:26	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400737	06/12/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403169	07/02/18 07:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 11:12	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403150	07/01/18 12:37	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: DUP-02
Date Collected: 06/07/18 07:00
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 23:10	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	402689	06/26/18 15:01	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		100	403212	07/02/18 10:46	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:33	BAB	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: DUP-02
Date Collected: 06/07/18 07:00
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-16
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		30	403304	07/02/18 15:25	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: DUP-03
Date Collected: 06/08/18 06:05
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	402495	06/25/18 21:22	DRE	TAL PEN
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 23:14	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		70	403252	07/02/18 13:50	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 18:00	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	403365	07/03/18 09:46	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: EB-01
Date Collected: 06/07/18 11:55
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 18:57	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403212	07/02/18 09:05	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:37	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403304	07/02/18 14:58	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: FB-01
Date Collected: 06/07/18 11:50
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 19:02	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	400948	06/13/18 18:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403212	07/02/18 09:05	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:46	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403304	07/02/18 14:58	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374836	07/11/18 09:45	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: EB-02
Date Collected: 06/08/18 09:17
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402138	06/22/18 11:58	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402495	06/25/18 19:06	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403252	07/02/18 13:07	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:53	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 08:55	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370670	06/15/18 16:02	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 14:24	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370673	06/15/18 17:02	JLC	TAL SL
Total/NA	Analysis	9320		1	374835	07/11/18 09:46	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: FB-02
Date Collected: 06/08/18 09:12
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 23:10	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403252	07/02/18 13:10	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403294	07/02/18 17:56	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:02	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370790	06/16/18 12:16	JLC	TAL SL
Total/NA	Analysis	9315		1	374836	07/11/18 05:45	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Client Sample ID: FB-02

Date Collected: 06/08/18 09:12
Date Received: 06/08/18 13:50

Lab Sample ID: 400-154881-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374666	07/10/18 14:40	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Metals

Prep Batch: 402138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total Recoverable	Water	3005A	
400-154881-8	MW-03	Total Recoverable	Water	3005A	
400-154881-9	MW-06	Total Recoverable	Water	3005A	
400-154881-9 - DL	MW-06	Total Recoverable	Water	3005A	
400-154881-10 - DL	MW-07	Total Recoverable	Water	3005A	
400-154881-10	MW-07	Total Recoverable	Water	3005A	
400-154881-11	MW-08	Total Recoverable	Water	3005A	
400-154881-11 - DL	MW-08	Total Recoverable	Water	3005A	
400-154881-12 - DL	MW-09	Total Recoverable	Water	3005A	
400-154881-12	MW-09	Total Recoverable	Water	3005A	
400-154881-13	MW-10	Total Recoverable	Water	3005A	
400-154881-13 - DL	MW-10	Total Recoverable	Water	3005A	
400-154881-14	MW-12	Total Recoverable	Water	3005A	
400-154881-15	DUP-01	Total Recoverable	Water	3005A	
400-154881-16 - DL	DUP-02	Total Recoverable	Water	3005A	
400-154881-16	DUP-02	Total Recoverable	Water	3005A	
400-154881-17 - DL	DUP-03	Total Recoverable	Water	3005A	
400-154881-17	DUP-03	Total Recoverable	Water	3005A	
400-154881-18	EB-01	Total Recoverable	Water	3005A	
400-154881-19	FB-01	Total Recoverable	Water	3005A	
400-154881-20	EB-02	Total Recoverable	Water	3005A	
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-154881-7 MS	MW-02	Total Recoverable	Water	3005A	
400-154881-7 MSD	MW-02	Total Recoverable	Water	3005A	

Prep Batch: 402140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-21	FB-02	Total Recoverable	Water	3005A	
MB 400-402140/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402140/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-155121-B-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-155121-B-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 402344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-21	FB-02	Total Recoverable	Water	6020	402140
MB 400-402140/1-A ^5	Method Blank	Total Recoverable	Water	6020	402140
LCS 400-402140/2-A	Lab Control Sample	Total Recoverable	Water	6020	402140
400-155121-B-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	402140
400-155121-B-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	402140

Analysis Batch: 402495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total Recoverable	Water	6020	402138
400-154881-8	MW-03	Total Recoverable	Water	6020	402138
400-154881-9 - DL	MW-06	Total Recoverable	Water	6020	402138
400-154881-9	MW-06	Total Recoverable	Water	6020	402138
400-154881-10 - DL	MW-07	Total Recoverable	Water	6020	402138
400-154881-10	MW-07	Total Recoverable	Water	6020	402138
400-154881-11 - DL	MW-08	Total Recoverable	Water	6020	402138

Metals (Continued)

Analysis Batch: 402495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-11	MW-08	Total Recoverable	Water	6020	402138
400-154881-12 - DL	MW-09	Total Recoverable	Water	6020	402138
400-154881-12	MW-09	Total Recoverable	Water	6020	402138
400-154881-13 - DL	MW-10	Total Recoverable	Water	6020	402138
400-154881-13	MW-10	Total Recoverable	Water	6020	402138
400-154881-14	MW-12	Total Recoverable	Water	6020	402138
400-154881-15	DUP-01	Total Recoverable	Water	6020	402138
400-154881-16	DUP-02	Total Recoverable	Water	6020	402138
400-154881-17 - DL	DUP-03	Total Recoverable	Water	6020	402138
400-154881-17	DUP-03	Total Recoverable	Water	6020	402138
400-154881-18	EB-01	Total Recoverable	Water	6020	402138
400-154881-19	FB-01	Total Recoverable	Water	6020	402138
400-154881-20	EB-02	Total Recoverable	Water	6020	402138
MB 400-402138/1-A ^5	Method Blank	Total Recoverable	Water	6020	402138
LCS 400-402138/2-A	Lab Control Sample	Total Recoverable	Water	6020	402138
400-154881-7 MS	MW-02	Total Recoverable	Water	6020	402138
400-154881-7 MSD	MW-02	Total Recoverable	Water	6020	402138

Analysis Batch: 402689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-16 - DL	DUP-02	Total Recoverable	Water	6020	402138

General Chemistry

Analysis Batch: 400737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-14	MW-12	Total/NA	Water	SM 2540C	
400-154881-15	DUP-01	Total/NA	Water	SM 2540C	
MB 400-400737/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400737/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154780-C-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 400948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-11	MW-08	Total/NA	Water	SM 2540C	
400-154881-12	MW-09	Total/NA	Water	SM 2540C	
400-154881-13	MW-10	Total/NA	Water	SM 2540C	
400-154881-16	DUP-02	Total/NA	Water	SM 2540C	
400-154881-18	EB-01	Total/NA	Water	SM 2540C	
400-154881-19	FB-01	Total/NA	Water	SM 2540C	
MB 400-400948/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400948/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154761-A-34 DU	Duplicate	Total/NA	Water	SM 2540C	
400-154880-B-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 400962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	SM 2540C	
400-154881-8	MW-03	Total/NA	Water	SM 2540C	
MB 400-400962/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 400962 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-400962/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154761-A-23 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 401134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-9	MW-06	Total/NA	Water	SM 2540C	
400-154881-10	MW-07	Total/NA	Water	SM 2540C	
400-154881-17	DUP-03	Total/NA	Water	SM 2540C	
400-154881-20	EB-02	Total/NA	Water	SM 2540C	
400-154881-21	FB-02	Total/NA	Water	SM 2540C	
MB 400-401134/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-401134/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154909-A-5 DU	Duplicate	Total/NA	Water	SM 2540C	
400-154975-A-7 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 403150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	SM 4500 SO4 E	
400-154881-8	MW-03	Total/NA	Water	SM 4500 SO4 E	
400-154881-14	MW-12	Total/NA	Water	SM 4500 SO4 E	
400-154881-15	DUP-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-403150/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-403150/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-403150/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-155356-B-10 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-155356-B-10 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 403169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	SM 4500 Cl- E	
400-154881-8	MW-03	Total/NA	Water	SM 4500 Cl- E	
400-154881-14	MW-12	Total/NA	Water	SM 4500 Cl- E	
400-154881-15	DUP-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-403169/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-403169/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-403169/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154881-7 MS	MW-02	Total/NA	Water	SM 4500 Cl- E	
400-154881-7 MSD	MW-02	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 403212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-9	MW-06	Total/NA	Water	SM 4500 Cl- E	
400-154881-10	MW-07	Total/NA	Water	SM 4500 Cl- E	
400-154881-11	MW-08	Total/NA	Water	SM 4500 Cl- E	
400-154881-12	MW-09	Total/NA	Water	SM 4500 Cl- E	
400-154881-13	MW-10	Total/NA	Water	SM 4500 Cl- E	
400-154881-16	DUP-02	Total/NA	Water	SM 4500 Cl- E	
400-154881-18	EB-01	Total/NA	Water	SM 4500 Cl- E	
400-154881-19	FB-01	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-154880-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Analysis Batch: 403221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	SM 4500 F C	
400-154881-8	MW-03	Total/NA	Water	SM 4500 F C	
400-154881-14	MW-12	Total/NA	Water	SM 4500 F C	
400-154881-15	DUP-01	Total/NA	Water	SM 4500 F C	
MB 400-403221/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403221/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154742-B-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154742-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154881-7 DU	MW-02	Total/NA	Water	SM 4500 F C	

Analysis Batch: 403252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-17	DUP-03	Total/NA	Water	SM 4500 Cl- E	
400-154881-20	EB-02	Total/NA	Water	SM 4500 Cl- E	
400-154881-21	FB-02	Total/NA	Water	SM 4500 Cl- E	
MB 400-403252/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-403252/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-155393-D-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-155393-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 403294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-9	MW-06	Total/NA	Water	SM 4500 F C	
400-154881-10	MW-07	Total/NA	Water	SM 4500 F C	
400-154881-11	MW-08	Total/NA	Water	SM 4500 F C	
400-154881-12	MW-09	Total/NA	Water	SM 4500 F C	
400-154881-13	MW-10	Total/NA	Water	SM 4500 F C	
400-154881-16	DUP-02	Total/NA	Water	SM 4500 F C	
400-154881-17	DUP-03	Total/NA	Water	SM 4500 F C	
400-154881-18	EB-01	Total/NA	Water	SM 4500 F C	
400-154881-19	FB-01	Total/NA	Water	SM 4500 F C	
400-154881-20	EB-02	Total/NA	Water	SM 4500 F C	
400-154881-21	FB-02	Total/NA	Water	SM 4500 F C	
MB 400-403294/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403294/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154881-19 DU	FB-01	Total/NA	Water	SM 4500 F C	

Analysis Batch: 403304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-9	MW-06	Total/NA	Water	SM 4500 SO4 E	
400-154881-10	MW-07	Total/NA	Water	SM 4500 SO4 E	
400-154881-11	MW-08	Total/NA	Water	SM 4500 SO4 E	
400-154881-12	MW-09	Total/NA	Water	SM 4500 SO4 E	
400-154881-13	MW-10	Total/NA	Water	SM 4500 SO4 E	
400-154881-16	DUP-02	Total/NA	Water	SM 4500 SO4 E	
400-154881-18	EB-01	Total/NA	Water	SM 4500 SO4 E	
400-154881-19	FB-01	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 403365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-17	DUP-03	Total/NA	Water	SM 4500 SO4 E	
400-154881-20	EB-02	Total/NA	Water	SM 4500 SO4 E	
400-154881-21	FB-02	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 403365 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-403365/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-403365/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-403365/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-154909-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154909-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Rad

Prep Batch: 370670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	PrecSep-21	
400-154881-8	MW-03	Total/NA	Water	PrecSep-21	
400-154881-9	MW-06	Total/NA	Water	PrecSep-21	
400-154881-10	MW-07	Total/NA	Water	PrecSep-21	
400-154881-11	MW-08	Total/NA	Water	PrecSep-21	
400-154881-12	MW-09	Total/NA	Water	PrecSep-21	
400-154881-13	MW-10	Total/NA	Water	PrecSep-21	
400-154881-14	MW-12	Total/NA	Water	PrecSep-21	
400-154881-15	DUP-01	Total/NA	Water	PrecSep-21	
400-154881-16	DUP-02	Total/NA	Water	PrecSep-21	
400-154881-17	DUP-03	Total/NA	Water	PrecSep-21	
400-154881-18	EB-01	Total/NA	Water	PrecSep-21	
400-154881-19	FB-01	Total/NA	Water	PrecSep-21	
400-154881-20	EB-02	Total/NA	Water	PrecSep-21	
MB 160-370670/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-370670/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-370670/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 370673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	PrecSep_0	
400-154881-8	MW-03	Total/NA	Water	PrecSep_0	
400-154881-9	MW-06	Total/NA	Water	PrecSep_0	
400-154881-10	MW-07	Total/NA	Water	PrecSep_0	
400-154881-11	MW-08	Total/NA	Water	PrecSep_0	
400-154881-12	MW-09	Total/NA	Water	PrecSep_0	
400-154881-13	MW-10	Total/NA	Water	PrecSep_0	
400-154881-14	MW-12	Total/NA	Water	PrecSep_0	
400-154881-15	DUP-01	Total/NA	Water	PrecSep_0	
400-154881-16	DUP-02	Total/NA	Water	PrecSep_0	
400-154881-17	DUP-03	Total/NA	Water	PrecSep_0	
400-154881-18	EB-01	Total/NA	Water	PrecSep_0	
400-154881-19	FB-01	Total/NA	Water	PrecSep_0	
400-154881-20	EB-02	Total/NA	Water	PrecSep_0	
MB 160-370673/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-370673/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-370673/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 370790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-21	FB-02	Total/NA	Water	PrecSep-21	
MB 160-370790/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-370790/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-370790/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 370793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-21	FB-02	Total/NA	Water	PrecSep_0	
MB 160-370793/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-370793/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-370793/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Field Service / Mobile Lab

Analysis Batch: 404432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-7	MW-02	Total/NA	Water	Field Sampling	
400-154881-8	MW-03	Total/NA	Water	Field Sampling	
400-154881-9	MW-06	Total/NA	Water	Field Sampling	
400-154881-10	MW-07	Total/NA	Water	Field Sampling	
400-154881-14	MW-12	Total/NA	Water	Field Sampling	

Analysis Batch: 404612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154881-11	MW-08	Total/NA	Water	Field Sampling	
400-154881-12	MW-09	Total/NA	Water	Field Sampling	
400-154881-13	MW-10	Total/NA	Water	Field Sampling	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-402138/1-A ^5
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 11:58	06/25/18 18:44	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 11:58	06/25/18 18:44	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 11:58	06/25/18 18:44	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 11:58	06/25/18 18:44	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 11:58	06/25/18 18:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 11:58	06/25/18 18:44	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 11:58	06/25/18 18:44	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 11:58	06/25/18 18:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 11:58	06/25/18 18:44	5

Lab Sample ID: LCS 400-402138/2-A
Matrix: Water
Analysis Batch: 402495

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0515		mg/L		103	80 - 120
Barium	0.0500	0.0487		mg/L		97	80 - 120
Beryllium	0.0500	0.0486		mg/L		97	80 - 120
Boron	0.100	0.0977		mg/L		98	80 - 120
Calcium	5.00	4.94		mg/L		99	80 - 120
Chromium	0.0500	0.0502		mg/L		100	80 - 120
Cobalt	0.0500	0.0506		mg/L		101	80 - 120
Lithium	0.0500	0.0531		mg/L		106	80 - 120
Molybdenum	0.0500	0.0488		mg/L		98	80 - 120
Selenium	0.0500	0.0525		mg/L		105	80 - 120

Lab Sample ID: 400-154881-7 MS
Matrix: Water
Analysis Batch: 402495

Client Sample ID: MW-02
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00046	U	0.0500	0.0534		mg/L		107	75 - 125
Barium	0.017		0.0500	0.0679		mg/L		102	75 - 125
Beryllium	0.00034	U	0.0500	0.0494		mg/L		99	75 - 125
Boron	0.027	I	0.100	0.131		mg/L		104	75 - 125
Calcium	32		5.00	38.0		mg/L		115	75 - 125
Chromium	0.0029		0.0500	0.0544		mg/L		103	75 - 125
Cobalt	0.00040	U	0.0500	0.0528		mg/L		106	75 - 125
Lithium	0.0051		0.0500	0.0518		mg/L		93	75 - 125
Molybdenum	0.00085	U	0.0500	0.0483		mg/L		97	75 - 125
Selenium	0.00024	U	0.0500	0.0519		mg/L		104	75 - 125

Lab Sample ID: 400-154881-7 MSD
Matrix: Water
Analysis Batch: 402495

Client Sample ID: MW-02
Prep Type: Total Recoverable
Prep Batch: 402138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00046	U	0.0500	0.0528		mg/L		106	75 - 125	1	20

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

Lab Sample ID: 400-154881-7 MSD — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402495 — **Prep Batch: 402138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.017		0.0500	0.0647		mg/L		95	75 - 125	5	20
Beryllium	0.00034	U	0.0500	0.0480		mg/L		96	75 - 125	3	20
Boron	0.027	I	0.100	0.129		mg/L		102	75 - 125	1	20
Calcium	32		5.00	37.0		mg/L		96	75 - 125	2	20
Chromium	0.0029		0.0500	0.0542		mg/L		103	75 - 125	0	20
Cobalt	0.00040	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Lithium	0.0051		0.0500	0.0514		mg/L		93	75 - 125	1	20
Molybdenum	0.00085	U	0.0500	0.0480		mg/L		96	75 - 125	1	20
Selenium	0.00024	U	0.0500	0.0521		mg/L		104	75 - 125	0	20

Lab Sample ID: MB 400-402140/1-A ^5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402140**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 20:33	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 20:33	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 20:33	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 12:01	06/22/18 20:33	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 12:01	06/22/18 20:33	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 20:33	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 20:33	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 20:33	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 20:33	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 20:33	5

Lab Sample ID: LCS 400-402140/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402140**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0474		mg/L		95	80 - 120
Barium	0.0500	0.0485		mg/L		97	80 - 120
Beryllium	0.0500	0.0495		mg/L		99	80 - 120
Boron	0.100	0.0924		mg/L		92	80 - 120
Calcium	5.00	4.76		mg/L		95	80 - 120
Chromium	0.0500	0.0474		mg/L		95	80 - 120
Cobalt	0.0500	0.0497		mg/L		99	80 - 120
Lithium	0.0500	0.0497		mg/L		99	80 - 120
Molybdenum	0.0500	0.0506		mg/L		101	80 - 120
Selenium	0.0500	0.0525		mg/L		105	80 - 120

Lab Sample ID: 400-155121-B-1-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402140**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00046	U	0.0500	0.0482		mg/L		96	75 - 125
Barium	0.025		0.0500	0.0731		mg/L		97	75 - 125

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

Lab Sample ID: 400-155121-B-1-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402140**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00034	U	0.0500	0.0518		mg/L		104	75 - 125
Boron	0.021	U	0.100	0.0880		mg/L		88	75 - 125
Calcium	4.8		5.00	9.55		mg/L		96	75 - 125
Chromium	0.0038		0.0500	0.0520		mg/L		96	75 - 125
Cobalt	0.00040	U	0.0500	0.0510		mg/L		102	75 - 125
Lithium	0.0068		0.0500	0.0528		mg/L		92	75 - 125
Molybdenum	0.0012	I	0.0500	0.0519		mg/L		101	75 - 125
Selenium	0.00076	I	0.0500	0.0567		mg/L		112	75 - 125

Lab Sample ID: 400-155121-B-1-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402140**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00046	U	0.0500	0.0480		mg/L		96	75 - 125	0	20
Barium	0.025		0.0500	0.0732		mg/L		97	75 - 125	0	20
Beryllium	0.00034	U	0.0500	0.0529		mg/L		106	75 - 125	2	20
Boron	0.021	U	0.100	0.102		mg/L		102	75 - 125	15	20
Calcium	4.8		5.00	9.43		mg/L		93	75 - 125	1	20
Chromium	0.0038		0.0500	0.0527		mg/L		98	75 - 125	1	20
Cobalt	0.00040	U	0.0500	0.0512		mg/L		102	75 - 125	0	20
Lithium	0.0068		0.0500	0.0522		mg/L		91	75 - 125	1	20
Molybdenum	0.0012	I	0.0500	0.0501		mg/L		98	75 - 125	3	20
Selenium	0.00076	I	0.0500	0.0535		mg/L		106	75 - 125	6	20

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

Lab Sample ID: MB 400-400737/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400737

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/12/18 13:11	1

Lab Sample ID: LCS 400-400737/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400737

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: 400-154780-C-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400737

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	370		368		mg/L		0	5

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

Lab Sample ID: MB 400-400948/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 18:25	1

Lab Sample ID: LCS 400-400948/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	266		mg/L		91	78 - 122

Lab Sample ID: 400-154761-A-34 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	320		322		mg/L		0	5

Lab Sample ID: 400-154880-B-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400948

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	700		696		mg/L		0	5

Lab Sample ID: MB 400-400962/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400962

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/13/18 16:43	1

Lab Sample ID: LCS 400-400962/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400962

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	254		mg/L		87	78 - 122

Lab Sample ID: 400-154761-A-23 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400962

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	310		310		mg/L		0	5

Lab Sample ID: MB 400-401134/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401134

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/15/18 15:50	1

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: Ash Pond

Lab Sample ID: LCS 400-401134/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401134

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			293	254		mg/L		87	78 - 122		

Lab Sample ID: 400-154909-A-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401134

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	560			556		mg/L				0	5

Lab Sample ID: 400-154975-A-7 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401134

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	58			58.0		mg/L				0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-403169/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403169

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 07:33	1

Lab Sample ID: LCS 400-403169/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403169

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			30.0	31.4		mg/L		105	90 - 110		

Lab Sample ID: MRL 400-403169/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403169

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			2.00	1.88	I	mg/L		94	50 - 150		

Lab Sample ID: 400-154881-7 MS — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13		10.0	23.6		mg/L		105	73 - 120		

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

Lab Sample ID: 400-154881-7 MSD — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		10.0	23.4		mg/L		102	73 - 120	1	8

Lab Sample ID: 400-154880-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	43		10.0	49.8	J3	mg/L		71	73 - 120		

Lab Sample ID: 400-154880-B-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403212

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	43		10.0	49.5	J3	mg/L		67	73 - 120	1	8

Lab Sample ID: MB 400-403252/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403252

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 13:07	1

Lab Sample ID: LCS 400-403252/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403252

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			30.0	32.9		mg/L		110	90 - 110		

Lab Sample ID: 400-155393-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	3.7		10.0	14.4		mg/L		107	73 - 120		

Lab Sample ID: 400-155393-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.7		10.0	14.5		mg/L		108	73 - 120	0	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-403221/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 10:13	1

Lab Sample ID: LCS 400-403221/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

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

Lab Sample ID: 400-154742-B-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125

Lab Sample ID: 400-154742-B-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125	0	4

Lab Sample ID: 400-154881-7 DU — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403221

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.19		0.190		mg/L		0	4

Lab Sample ID: MB 400-403294/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 16:54	1

Lab Sample ID: LCS 400-403294/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.87		mg/L		97	90 - 110

Lab Sample ID: 400-154881-19 DU — **Client Sample ID: FB-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403294

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-403150/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403150

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			07/01/18 12:26	1

Lab Sample ID: LCS 400-403150/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403150

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	16.2		mg/L		108	90 - 110

Lab Sample ID: MRL 400-403150/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403150

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.93		mg/L		119	50 - 150

Lab Sample ID: 400-155356-B-10 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403150

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	3.5	I	10.0	14.8		mg/L		113	77 - 128

Lab Sample ID: 400-155356-B-10 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403150

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	3.5	I	10.0	15.0		mg/L		115	77 - 128	1	5

Lab Sample ID: MB 400-403365/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403365

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			07/03/18 08:55	1

Lab Sample ID: LCS 400-403365/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403365

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.0		mg/L		100	90 - 110

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

Lab Sample ID: MRL 400-403365/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403365

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.34		mg/L		107	50 - 150		

Lab Sample ID: 400-154909-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403365

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	1.5	I	10.0	10.9		mg/L		94	77 - 128		

Lab Sample ID: 400-154909-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403365

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.5	I	10.0	10.5		mg/L		90	77 - 128	3	5

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-370670/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03659	U	0.228	0.228	1.00	0.444	pCi/L	06/15/18 16:02	07/11/18 14:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/15/18 16:02*	*07/11/18 14:24*	*1*

Lab Sample ID: LCS 160-370670/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.7	17.09		2.12	1.00	0.361	pCi/L	109	68 - 137		

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

Lab Sample ID: LCSD 160-370670/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.7	15.22		1.94	1.00	0.380	pCi/L	97	68 - 137	0.46	1

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

Lab Sample ID: LCSD 160-370670/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370670**

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Lab Sample ID: MB 160-370790/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374837 — **Prep Batch: 370790**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1626	U	0.143	0.143	1.00	0.207	pCi/L	06/16/18 12:16	07/11/18 05:50	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:50*	*1*

Lab Sample ID: LCS 160-370790/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374834 — **Prep Batch: 370790**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.78		1.31	1.00	0.170	pCi/L	91	68 - 137		

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

Lab Sample ID: LCSD 160-370790/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374834 — **Prep Batch: 370790**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.52		1.26	1.00	0.174	pCi/L	89	68 - 137	0.10	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-370673/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374835 — **Prep Batch: 370673**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4235	U	0.365	0.367	1.00	0.583	pCi/L	06/15/18 17:02	07/11/18 09:46	1

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

Lab Sample ID: MB 160-370673/23-A
Matrix: Water
Analysis Batch: 374835

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 370673

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110	06/15/18 17:02	07/11/18 09:46	1
Y Carrier	69.2		40 - 110	06/15/18 17:02	07/11/18 09:46	1

Lab Sample ID: LCS 160-370673/1-A
Matrix: Water
Analysis Batch: 374836

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 370673

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			10.9	11.13		1.32	1.00	0.497	pCi/L	102	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	100		40 - 110
Y Carrier	85.6		40 - 110

Lab Sample ID: LCSD 160-370673/2-A
Matrix: Water
Analysis Batch: 374836

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 370673

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			10.9	9.499		1.26	1.00	0.645	pCi/L	87	56 - 140	0.63	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	101		40 - 110
Y Carrier	65.0		40 - 110

Lab Sample ID: MB 160-370793/23-A
Matrix: Water
Analysis Batch: 374561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 370793

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2117	U	0.207	0.208	1.00	0.336	pCi/L	06/16/18 13:10	07/10/18 14:44	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110	06/16/18 13:10	07/10/18 14:44	1
Y Carrier	88.2		40 - 110	06/16/18 13:10	07/10/18 14:44	1

Lab Sample ID: LCS 160-370793/1-A
Matrix: Water
Analysis Batch: 374666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 370793

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.16	8.143		0.955	1.00	0.347	pCi/L	100	56 - 140		

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

Lab Sample ID: LCS 160-370793/1-A
Matrix: Water
Analysis Batch: 374666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 370793

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*93.5*		*40 - 110*

Lab Sample ID: LCSD 160-370793/2-A
Matrix: Water
Analysis Batch: 374666

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 370793

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.16	8.321		0.965	1.00	0.310	pCi/L	102	56 - 140	0.09	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*
Y Carrier	*91.6*		*40 - 110*

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

Lab Sample ID: 180-78700-A-6 DU
Matrix: Water
Analysis Batch: 375258

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Combined Radium 226 + 228	0.210	U		0.5506		0.223	5.00	0.307	pCi/L			0.80	

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: 400-74588-29346.2
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 2
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site: Ash Pond	SSOW#:			

Analysis Requested

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 (Wwater, Ssolid, Owastefoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_CL_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	~~6020 - Sb,As,Ba,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl; 7470A - Mercury~~	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	Boron, Calcium, As, Ba, Beryllium	Cr, Co, Lithium, Molybdenum	Se								Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D												
MW-02	6-6-18	1410	G	Water			X		X	X	X	X								3	
MW-03	6-6-18	1902	G	Water			X		X	X	X	X								3	
MW-06	6-8-18	0829	G	Water			X		X	X	X	X								3	
MW-07	6-8-18	1011	G	Water			X		X	X	X	X								3	
MW-08	6-7-18	1314	G				X		X	X	X	X								3	
MW-09	6-7-18	1721	G				X		X	X	X	X								3	
MW-10	6-7-18	1948	G				X		X	X	X	X								3	
MW-12	6-6-18	1606	G				X		X	X	X	X								3	
DUP-01	6-6-18	0600	G				X		X	X	X	X								3	
DUP-02	6-7-18	0700	G				X		X	X	X	X								3	
DUP-03	6-8-18	0605	G				X		X	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
[signature]	6-8-18 1130	RDH GW	Rickston Hagendorfer	06/8/18 11:34	RDH
Rickston Hagendorfer	06/8/18 1:50	RDH	[signature]	6.8.18 1350	TA-Pen
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.

Ver: 08/04/2016

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

Chain of Custody Record

TestAmerica

Client Information	Sampler: Rick Hagendorfer	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-74588-29346.2
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 2 of 2
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site: Ash Pond	SSOW#:			

Analysis Requested

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)	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, 7470A - Mercury	9315_Ra228, 9320_Ra228, Ra226Ra228_GFPC	Boron, Calcium, As, Ba, Beryllium	Cr, Co, Lithium, Molybdenum	Se								Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D												
EB-01	6-7-18	1155	G	Water			X		X	X	X	X								3	
FB-01	6-7-18	1150	G	Water			X		X	X	X	X								3	
EB-02	6-8-18	0917	G	Water			X		X	X	X	X								3	
FB-02	6-8-18	0912	G	Water			X		X	X	X	X								3	

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:

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
[signature]	6-8-18 1130	NOH ENV	Princeton Hagendorfer	06/8/18 11:34	RDH
Princeton Hagendorfer	06/8/18 1:50	RDH	[signature]	6-8-18 1350	TA Pen
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:

Ver: 09/04/2016

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154881-7
SDG Number: Ash Pond

Login Number: 154881
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, 0.0°C, 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: Gulf Power Company

Job Number: 400-154881-7
SDG Number: Ash Pond

Login Number: 154881
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/12/18 05:09 PM

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	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-154881-7
SDG: 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	09-30-19
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	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

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

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

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	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	10-31-18 *

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

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date: August 30, 2018

To: Carl Eldred

From: Chris Pracheil

CC: H. Parthasarathy and J. Caprio

Subject: Stage 2A Data Validations - Level II Data Deliverables – TestAmerica Laboratories, Inc. Job Numbers 440-154881-2, 440-154881-3, 440-154881-5and 440-154881-7

SITE: Plant Smith

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of eleven aqueous samples, three field duplicate samples, two field blanks and two equipment blanks collected from June 06 to 08, 2018, as part of the Plant Smith CCR sampling event.

The samples were analyzed at TestAmerica Pensacola (TA Pensacola), Pensacola, Florida, for the following analytical tests:

- Metals by EPA Methods 3005A/6020
- Mercury by EPA Method 7470A
- Chloride by Standard Methods (SM) 4500 Cl
- Fluoride by SM 45000 F
- Sulfate by SM 4500 SO_4
- Total Dissolved Solids by SM 2540 C

The samples were analyzed at TestAmerica St. Louis (TA St. Louis), Earth City, MO for the following analytical tests:

- Radium-226 by EPA Method 9315
- Radium-228 by EPA Method 9320
- Combine Radium 226 + 228 by Calculation

EXECUTIVE SUMMARY

The samples were handled, prepared and measured in the same manner under similar prescribed conditions.

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- National Functional Guidelines for Inorganic Superfund Data Review, August 2014 (OSWER 9355.0-131, EPA 540-R-013-001);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012); and,
- Southern Company Services, Inc., Standard Operating Procedure (hereafter referred to as the SOP) for Level 2A Verification of Coal Combustion Residuals Data, Environmental Testing Laboratory Program, Draft, November 21, 2017, Revision 0, Prepared by Environmental Standards, Inc., Valley Forge, Pennsylvania.

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
400-154881-2	MW-14
400-154881-3	MW-13
400-154881-5	MW-11
400-154881-7	MW-02
400-154881-8	MW-03
400-154881-9	MW-06
400-154881-10	MW-07
400-154881-11	MW-08
400-154881-12	MW-09

Laboratory ID	Client ID
400-154881-13	MW-10
400-154881-14	MW-12
400-154881-15	DUP-01
400-154881-16	DUP-02
400-154881-17	DUP-03
400-154881-18	EB-01
400-154881-19	FB-01
400-154881-20	EB-02
400-154881-21	FB-02

The samples were received within 0-6ºC, with the following exceptions. The samples that were sent to TA St. Louis were received at 18.0˚C, since these samples were being analyzed for

radium-226 and radium-228 and did not require cooling, no qualifications were applied to the data.

No sample preservation issues were noted by the laboratory.

1.0 METALS

The samples were analyzed by EPA methods 3005A/6020 (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Field Blank
⊗ Equipment Blank
✓ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the sample set is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding time was met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 402138 and 402140). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported using sample MW-02. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria.

One batch MS/MSD pair was also reported for the metals data. Since these were batch QC, the results do not affect the samples in this data set and no qualifications were applied to the data based on the batch QC.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

1.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Metals were not detected in the field blanks above the MDLs.

1.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Metals were not detected in the equipment blanks above the MDLs, with the following exception.

Selenium was detected at an estimated concentration, greater than the MDL and less the RL in EB-01. Therefore, the concentrations of selenium in the associated samples that were less than five times the equipment blank concentration were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-03	Selenium	0.0003	I	0.0003	U*	BE

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-08	Selenium	0.00032	I	0.00032	U*	BE
MW-13	Selenium	0.00031	I	0.00031	U*	BE
MW-11	Selenium	0.0006	I	0.0006	U*	BE

mg/L- milligram per liter
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
*-Validation qualifiers are defined in Attachment 1 at the end of this report
**-Reason codes are defined in Attachment 2 at the end of this report

1.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-03. Acceptable precision [(RPD $\leq$ 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-08 and MW-06, respectively.

Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported due to the dilutions analyzed.

1.9 Electronic Data Deliverables (EDDs) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

2.0 ANIONS

The samples were analyzed for chloride by SM 4500 Cl, fluoride by SM 4500 F and sulfate by SM 4500 SO_4.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank

- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The anion data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Times

The holding time for anion analyses of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Eight method blanks were reported (chloride batches 403169, 403212 and 403252; fluoride batches 403221 and 403294; sulfate batches 403150, 403304 and 403365). Anions were not detected in the method blanks above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample MW-02 for the chloride data. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria.

In addition, two batch MS/MSD pairs was reported for the chloride data, two batch MS/MSD pairs were reported for the fluoride data and three batch MS/MSD pairs were reported for the sulfate data. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Eight LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

2.6 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported for the fluoride data, using samples MW-02 and FB-01. The RPD results were within the laboratory and SOP specified acceptance criteria.

2.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Anions were not detected in the field blanks above the MDLs.

2.8 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Anions were not detected in the equipment blanks above the MDLs, with the following exception.

Sulfate was detected at an estimated concentration, greater than the MDL and less the RL in EB-02. Since sulfate was either not detected or detected at more than five times the equipment blank concentration in the associated samples, no qualifications were applied to the sulfate data based on the equipment blank contamination.

2.9 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-03. Acceptable precision [(RPD $\leq$ 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-08 and MW-06, respectively.

2.10 Sensitivity

The samples were reported to the MDLs. No elevated non-detect results were reported.

2.11 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

3.0 TOTAL DISSOLVED SOLIDS

The samples were analyzed for total dissolved solids (TDS) by SM 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The TDS data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

3.2 Holding Times

The holding time for TDS analyses of a water sample is 7 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported (batches 400737, 400948, 400955, 400962 and 401134). TDS was not detected in the method blanks above the MDL.

3.4 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.5 Laboratory Duplicate

Five batch laboratory duplicates were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. TDS was not detected in the field blanks above the MDLs.

3.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. TDS was not detected in the equipment blanks above the MDLs.

3.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-03. Acceptable precision [(RPD $\leq$ 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-03, MW-08 and MW-06, respectively.

3.9 Sensitivity

The samples were reported to the MDL. No elevated non-detect results were reported.

3.10 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by EPA method 9315, radium-228 by EPA method 9320 and combine radium 226+228 by calculation.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Tracers and Carriers
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The radium-226 and radium-228 data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

4.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported for the radium-226 data (batches 370670 and 370790). Two method blanks were reported for the radium-228 data (batches 370673 and 370793). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs).

4.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

4.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCS/LCS duplicate (LCSD) pairs were reported for radium-226 and two LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory and SOP specified acceptance criteria.

4.6 Laboratory Duplicate

One batch laboratory duplicate was reported for the radium-228 data. Since this was batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.8 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Radium was not detected in the field blanks above the MDCs, with the following exception.

Radium-226 was detected above the MDC in FB-02. Since the radium-226 normalized absolute difference (NAD) between the equipment blank and the associated samples radium-226 concentrations were greater than 2.58, no qualifications were applied to the data.

4.9 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Radium was not detected in the equipment blanks above the MDCs.

4.10 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-03. Acceptable precision [(RER (2σ) ≥ 3] was demonstrated between the field duplicates and original samples MW-03, MW-08 and MW-06, respectively.

4.11 Sensitivity

The samples were reported to the MDCs. No elevated non-detect results were reported.

4.12 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

---

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious analytical efficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample

UR The analyte was analyzed for, but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the staple and meet quality control criteria. The analyte may or may not be present in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date: September 21, 2018

To: Carl Eldred

From: Kristoffer Henderson

CC: H. Parthasarathy and J. Caprio

Subject: Stage 2A Data Validations - Level II Data Deliverables – TestAmerica Laboratories, Inc. Job Number 440-154881-2

SITE: Plant Smith

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of one aqueous sample, collected June 07, 2018, as part of the Plant Smith CCR sampling event.

The sample was analyzed at TestAmerica Pensacola (TA Pensacola), Pensacola, Florida, for the following analytical tests:

- Metals by EPA Methods 3005A/6020
- Chloride by Standard Methods (SM) 4500 Cl
- Fluoride by SM 4500 F
- Sulfate by SM 4500 SO_4
- Total Dissolved Solids by SM 2540 C

The sample was analyzed at TestAmerica St. Louis (TA St. Louis), Earth City, MO for the following analytical tests:

- Radium-226 by EPA Method 9315
- Radium-228 by EPA Method 9320
- Combine Radium 226 + 228 by Calculation

EXECUTIVE SUMMARY

Based on this Stage 2A data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory report, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- National Functional Guidelines for Inorganic Superfund Data Review, August 2014 (OSWER 9355.0-131, EPA 540-R-013-001);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012); and,
- Southern Company Services, Inc., Standard Operating Procedure (hereafter referred to as the SOP) for Level 2A Verification of Coal Combustion Residuals Data, Environmental Testing Laboratory Program, Draft, November 21, 2017, Revision 0, Prepared by Environmental Standards, Inc., Valley Forge, Pennsylvania.

The following sample was analyzed and reported in the laboratory report:

Laboratory ID	Client ID
400-154881-2	MW-14

No sample preservation issues were noted by the laboratory. It was noted that there was a discrepancy between the first sample relinquishing time and the first sample receiving time of four minutes (11:30 vs 11:34). This did not have an impact on the data.

1.0 METALS

The sample was analyzed by EPA methods 3005A/6020.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Field Blank
- ⊗ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the sample set is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding time was met for the sample analysis.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 402138). Metals were not detected in the method blank above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS/MSD pair was also reported for the metals data. Since these were batch QC, the results do not affect the samples in this data set and no qualifications were applied to the data based on the batch QC.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

1.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02, reported in laboratory report 400-154881-7. Metals were not detected in the field blanks above the MDLs.

1.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02, reported in laboratory report 400-154881-7. Metals were not detected in the equipment blanks above the MDLs, with the following exception.

Selenium was detected at an estimated concentration, greater than the MDL and less the RL in EB-01. Therefore, the concentration of selenium in the associated sample that was less than five times the equipment blank concentration was U* qualified as not detected at the reported concentration.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-14	Selenium	0.00041	I	0.00041	U*	BE

mg/L- milligram per liter
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
*-Validation qualifiers are defined in Attachment 1 at the end of this report
**-Reason codes are defined in Attachment 2 at the end of this report

1.8 Field Duplicate

A field duplicate was not reported with the data set.

1.9 Sensitivity

The sample was reported to the MDLs. Elevated non-detect results were reported due to the dilutions analyzed.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 ANIONS

The sample was analyzed for chloride by SM 4500 Cl, fluoride by SM 4500 F and sulfate by SM 4500 SO_4.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The anion data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Times

The holding time for anion analyses (chloride, fluoride and sulfate) of a water sample is 28 days from sample collection to analysis. The holding time was met for the sample analysis.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported (chloride batch 403212; fluoride batch 403221; sulfate batch 403304). Anions were not detected in the method blanks above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS was reported for the chloride data, one batch MS/MSD pair was reported for the fluoride data and one batch MS/MSD pair was reported for the sulfate data. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

2.6 Laboratory Duplicate

One batch laboratory duplicate was reported for the fluoride data. Since this was batch QC, the result does not affect the samples in this data set and qualifications were not applied to the data.

2.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02, reported in laboratory report 400-154881-7. Anions were not detected in the field blanks above the MDLs.

2.8 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02, reported in laboratory report 400-154881-7. Anions were not detected in the equipment blanks above the MDLs, with the following exception.

Sulfate was detected at an estimated concentration, greater than the MDL and less the RL in EB-02. Since sulfate was detected at more than five times the equipment blank concentration in the associated sample, no qualification waw applied to the sulfate data based on the equipment blank contamination.

2.9 Field Duplicate

A field duplicate was not reported with the data set.

2.10 Sensitivity

The sample data were reported to the MDLs. No elevated non-detect results were reported.

2.11 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

3.0 TOTAL DISSOLVED SOLIDS

The samples were analyzed for total dissolved solids (TDS) by SM 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The TDS data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

3.2 Holding Times

The holding time for TDS analyses of a water sample is 7 days from sample collection to analysis. The holding time was met for the sample analysis.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 400948). TDS was not detected in the method blank above the MDL.

3.4 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory and SOP specified acceptance criteria.

3.5 Laboratory Duplicate

One batch laboratory duplicate was reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.6 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02, reported in laboratory report 400-154881-7. TDS was not detected in the field blanks above the MDLs.

3.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02, reported in laboratory report 400-154881-7. TDS was not detected in the equipment blanks above the MDLs.

3.8 Field Duplicate

A field duplicate was not reported with the data set.

3.9 Sensitivity

The sample result was reported to the MDL. No elevated non-detect results were reported.

3.10 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by EPA method 9315, radium-228 by EPA method 9320 and combine radium 226+228 by calculation.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Tracers and Carriers
- ✓ Field Blank
- ✓ Equipment Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The radium-226 and radium-228 data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

4.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for the radium-226 data (batch 370670). One method blank was reported for the radium-228 data (batch 370673 and

370793). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs).

4.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

4.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCS/LCS duplicate (LCSD) pairs were reported for radium-226 and two LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory and SOP specified acceptance criteria.

4.6 Laboratory Duplicate

One batch laboratory duplicate was reported for the radium-228 data. Since this was batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.8 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02, reported in laboratory report 400-154881-7. Radium was not detected in the field blanks above the MDCs, with the following exception.

Radium-226 was detected above the MDC in FB-02. Since the radium-226 normalized absolute difference (NAD) between the equipment blank and the associated sample radium-226 concentration was greater than 2.58, no qualifications were applied to the data.

4.9 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02, reported in laboratory report 400-154881-7. Radium was not detected in the equipment blanks above the MDCs.

4.10 Field Duplicate

A field duplicate was not reported with the data set.

4.11 Sensitivity

The sample was reported to the MDCs. No elevated non-detect results were reported.

4.12 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

---

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious analytical efficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample

UR The analyte was analyzed for, but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the staple and meet quality control criteria. The analyte may or may not be present in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	**Explanation**
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

Product Name: Low-Flow System

Date: 2018-11-19 11:11:56

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	PP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	35 ft

Well Information:		Pumping Information:	
Well ID	MW-06	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	42.6 in
Depth to Water	13.55 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	10:46:48	1501.02	26.67	5.41	9194.12	0.86	16.60	0.14	-153.60
Last 5	10:51:48	1801.02	27.06	5.35	9271.38	0.94	16.72	0.14	-146.78
Last 5	10:56:48	2101.02	26.84	5.32	9358.43	0.90	16.90	0.13	-140.81
Last 5	11:01:48	2401.02	26.74	5.28	9500.55	0.85	17.04	0.13	-135.61
Last 5	11:06:48	2701.02	26.70	5.26	9613.82	0.82	17.10	0.13	-131.54
Variance 0			-0.22	-0.04	87.06			-0.00	5.97
Variance 1			-0.09	-0.04	142.12			-0.00	5.19
Variance 2			-0.04	-0.03	113.27			-0.00	4.07

Notes

Sample time @1110. PC 70.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 12:26:09

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	PP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	42 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	35 ft

Well Information:		Pumping Information:	
Well ID	MW-07	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2774638 L
Well Total Depth	40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	6 in
Depth to Water	11.75 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	12:00:35	900.02	26.99	6.13	10725.57	5.01	12.28	0.13	-201.34
Last 5	12:05:35	1200.02	26.97	6.14	10741.64	4.43	12.28	0.12	-202.42
Last 5	12:10:35	1500.02	26.74	6.15	10774.92	4.50	12.28	0.11	-202.35
Last 5	12:15:35	1800.01	26.58	6.15	10795.99	4.28	12.28	0.11	-202.24
Last 5	12:20:35	2100.01	26.57	6.15	10809.27	4.66	12.28	0.11	-201.76
Variance 0			-0.23	0.01	33.28			-0.00	0.06
Variance 1			-0.17	0.01	21.07			-0.00	0.11
Variance 2			-0.01	0.00	13.28			-0.00	0.49

Notes

Sample time @ 1225. PC 70.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 15:13:14

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	PP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	MW-08	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	46 in
Depth to Water	17.82 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	14:57:44	300.02	25.87	3.19	11466.46	3.08	21.14	0.22	-3.54
Last 5	15:02:44	600.02	25.78	3.19	11476.73	3.05	21.48	0.18	-3.07
Last 5	15:07:45	901.02	25.79	3.26	11397.48	2.91	21.60	0.18	-8.80
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.09	0.00	10.28			-0.04	0.47
Variance 2			0.01	0.07	-79.25			-0.00	-5.73

Notes

Sample time @ 1515. PC 70.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-20 08:45:45

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant CCR	Tubing Length	35 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	Hach	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	MW-09	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12 in
Depth to Water	10.43 ft	Total Volume Pumped	16 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	08:23:04	1200.02	20.03	6.55	8863.92	5.46	11.41	0.21	-185.28
Last 5	08:28:04	1500.02	20.08	6.54	8900.38	5.07	11.42	0.21	-184.48
Last 5	08:33:04	1800.02	20.39	6.55	8855.54	4.93	11.42	0.17	-184.28
Last 5	08:38:04	2100.02	20.48	6.53	8920.38	4.76	11.42	0.19	-183.76
Last 5	08:43:04	2400.02	20.94	6.52	8950.55	4.51	11.42	0.26	-184.36
Variance 0			0.31	0.01	-44.84			-0.04	0.19
Variance 1			0.09	-0.02	64.84			0.02	0.53
Variance 2			0.46	-0.01	30.17			0.07	-0.60

Notes

Sample@0844, DUP-02@0744, partly cloudy 60

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-20 10:30:40

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	PP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	35 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	MW-10	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	19 in
Depth to Water	8.18 ft	Total Volume Pumped	26 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	10:07:28	2703.02	25.96	5.16	9012.37	5.96	9.67	0.15	-103.96
Last 5	10:12:28	3003.02	26.23	5.15	9020.14	5.20	9.67	0.14	-103.68
Last 5	10:17:28	3303.02	26.42	5.16	9010.36	4.68	9.68	0.14	-102.86
Last 5	10:22:28	3603.02	26.46	5.17	9014.01	4.80	9.70	0.14	-102.51
Last 5	10:27:29	3904.02	26.37	5.18	9003.92	4.43	9.70	0.14	-101.34
Variance 0			0.19	0.01	-9.79			-0.00	0.82
Variance 1			0.05	0.01	3.66			-0.00	0.36
Variance 2			-0.09	0.01	-10.09			-0.00	1.16

Notes

Sample time @ 1030. PC 70.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-20 11:47:30

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant CCR	Tubing Length	35 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	Hach	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	MW-11	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	20 in
Depth to Water	9.61 ft	Total Volume Pumped	24 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	11:24:10	2401.02	25.13	6.35	8870.75	14.80	11.55	0.15	-235.88
Last 5	11:29:10	2701.02	24.87	6.36	8817.42	13.00	11.55	0.14	-233.85
Last 5	11:34:10	3001.02	24.12	6.36	8855.32	11.40	11.55	0.14	-229.88
Last 5	11:39:10	3301.02	24.05	6.35	8973.70	10.30	11.55	0.15	-231.11
Last 5	11:44:10	3601.02	24.23	6.35	8964.92	9.85	11.55	0.14	-230.12
Variance 0			-0.75	-0.00	37.90			-0.00	3.97
Variance 1			-0.06	-0.00	118.38			0.00	-1.23
Variance 2			0.18	-0.00	-8.78			-0.00	0.98

Notes

Sample@1146, FB-01@1125 Sunny 67

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 14:21:42

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	PP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant	Tubing Length	45 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	MW-13	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.290854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	45 in
Depth to Water	15.65 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	13:54:49	300.02	26.15	6.94	13612.94	0.85	18.89	0.20	-236.70
Last 5	13:59:49	600.02	26.04	7.06	13768.92	0.60	19.01	0.17	-274.65
Last 5	14:04:49	900.02	26.01	7.04	14020.14	0.57	19.20	0.16	-287.65
Last 5	14:09:49	1200.02	25.99	7.01	14102.06	0.55	19.28	0.15	-288.89
Last 5	14:14:49	1500.02	26.01	6.99	14168.26	0.52	19.40	0.15	-288.79
Variance 0			-0.03	-0.02	251.22			-0.01	-13.01
Variance 1			-0.02	-0.03	81.92			-0.02	-1.24
Variance 2			0.02	-0.02	66.20			-0.00	0.10

Notes

Sample time @ 1425. PC 70.

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 14:41:08

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant CCR	Tubing Length	43 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	Hach	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	MW-14	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2819272 L
Well Total Depth	41 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	14 in
Depth to Water	21.61 ft	Total Volume Pumped	16 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	14:19:34	1200.02	22.71	7.02	9336.90	0.38	22.62	0.07	-331.59
Last 5	14:24:35	1501.02	22.52	6.97	9435.65	0.90	22.63	0.07	-343.83
Last 5	14:29:35	1801.02	22.50	6.91	9516.50	0.84	22.63	0.08	-351.07
Last 5	14:34:35	2101.02	22.48	6.88	9559.23	0.72	22.63	0.09	-355.95
Last 5	14:39:35	2401.02	22.59	6.86	9568.48	0.91	22.63	0.09	-359.05
Variance 0			-0.02	-0.06	80.85			0.01	-7.24
Variance 1			-0.02	-0.03	42.73			0.00	-4.89
Variance 2			0.11	-0.01	9.25			0.00	-3.09

Notes

Sample@1440, Sunny 66

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 08:56:00

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant CCR	Tubing Length	28 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	Hach	Pump placement from TOC	21 ft

Well Information:		Pumping Information:	
Well ID	MW-02	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2149758 L
Well Total Depth	26 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	14 in
Depth to Water	4.02 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	08:33:37	1500.02	21.49	6.02	178.22	2.19	5.26	0.10	-68.22
Last 5	08:38:37	1800.02	21.67	6.04	182.89	1.74	5.26	0.09	-72.52
Last 5	08:43:37	2100.02	21.90	6.05	186.84	1.33	5.26	0.09	-75.82
Last 5	08:48:37	2400.02	21.89	6.08	186.25	1.27	5.26	0.09	-78.45
Last 5	08:53:37	2700.02	21.94	6.09	189.27	1.17	5.26	0.08	-81.80
Variance 0			0.23	0.01	3.95			-0.00	-3.29
Variance 1			-0.01	0.02	-0.59			-0.00	-2.64
Variance 2			0.05	0.02	3.02			-0.01	-3.35

Notes

Sample@0855, Sunny 54

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 11:04:51

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant CCR	Tubing Length	35 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	Hach	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	MW-03	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2462198 L
Well Total Depth	33 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.08 in
Depth to Water	5.72 ft	Total Volume Pumped	36 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	10:42:59	4200.02	22.06	4.94	60.29	24.50	5.80	0.14	69.51
Last 5	10:47:59	4500.02	22.08	4.95	60.30	21.70	5.80	0.17	68.52
Last 5	10:52:59	4800.02	22.21	4.95	60.43	20.60	5.80	0.14	67.48
Last 5	10:57:59	5100.02	22.29	4.96	60.43	20.10	5.80	0.11	66.99
Last 5	11:02:59	5400.02	22.30	4.95	60.40	19.30	5.80	0.17	66.65
Variance 0			0.13	0.00	0.13			-0.02	-1.04
Variance 1			0.08	0.00	0.01			-0.03	-0.49
Variance 2			0.01	-0.01	-0.04			0.06	-0.34

Notes

Sample @1103, Sunny 57

Grab Samples

Product Name: Low-Flow System

Date: 2018-11-19 12:33:57

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	Smith CCR	Tubing Diameter	.17 in
Site Name	Smith Plant CCR	Tubing Length	34 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	Hach	Pump placement from TOC	27 ft

Well Information:		Pumping Information:	
Well ID	MW-12	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.2417564 L
Well Total Depth	32 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	52 in
Depth to Water	9.88 ft	Total Volume Pumped	16 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	12:11:47	1200.02	24.34	6.12	1205.87	5.22	14.11	0.12	-93.17
Last 5	12:16:47	1500.02	24.10	6.12	1204.46	4.98	14.29	0.12	-92.26
Last 5	12:21:47	1800.02	23.98	6.13	1203.49	3.44	14.43	0.11	-91.40
Last 5	12:26:47	2100.02	23.96	6.12	1196.38	2.09	14.49	0.11	-90.77
Last 5	12:31:47	2400.02	23.94	6.11	1200.44	1.79	14.51	0.10	-90.06
Variance 0			-0.12	0.00	-0.97			-0.00	0.86
Variance 1			-0.02	-0.00	-7.11			-0.00	0.63
Variance 2			-0.03	-0.01	4.06			-0.00	0.71

Notes

Sample@1233, DUP-01@1133, Sunny 64

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: 400-162396-1
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/14/2018 4:32:54 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 8
Sample Summary 9
Client Sample Results 10
Definitions 21
Chronicle 22
QC Association 26
QC Sample Results 30
Chain of Custody 37
Receipt Checklists 38
Certification Summary 39

Job ID: 400-162396-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-1

Metals
Method(s) 6020: The continuing calibration verification (CCV) associated with batch 421723 recovered above the upper control limit for Arsenic, Boron, Barium, Beryllium, Chromium, Cobalt, Selenium and Lithium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: FB-01 (400-162396-11).

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-6 (400-162396-3), MW-7 (400-162396-4), MW-8 (400-162396-5), MW-9 (400-162396-6), MW-10 (400-162396-7) and DUP-02 (400-162396-10). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-6 (400-162396-3), MW-7 (400-162396-4), MW-8 (400-162396-5), MW-9 (400-162396-6), MW-10 (400-162396-7), MW-12 (400-162396-8), DUP-01 (400-162396-9) and DUP-02 (400-162396-10). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 421795 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample the MS/MSD were diluted after the spike. The spike amounts were adjusted by the dilution factor. (400-162459-A-1 MS) and (400-162459-A-1 MSD)

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 421795 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-6 (400-162396-3), MW-7 (400-162396-4), MW-8 (400-162396-5), MW-9 (400-162396-6), MW-10 (400-162396-7), DUP-02 (400-162396-10), (400-162459-A-1), (400-162459-A-1 MS) and (400-162459-A-1 MSD). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-2 — Lab Sample ID: 400-162396-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	20		0.25	0.13	mg/L	5		6020	Total Recoverable
Barium - RA	0.013		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron - RA	0.045	I	0.050	0.021	mg/L	5		6020	Total Recoverable
Chromium - RA	0.0019	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium - RA	0.0028	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	88		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	13		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	4.4	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.09				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 400-162396-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	1.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Barium - RA	0.019		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium - RA	0.0024	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium - RA	0.011		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	13		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Field pH	4.95				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 400-162396-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron - DL	9.5		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	240		5.0	2.5	mg/L	100		6020	Total Recoverable
Arsenic - RA	0.00075	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium - RA	0.062		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium - RA	0.0016	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium - RA	0.024		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	5500		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	3200		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	520		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	5.26				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-7 — Lab Sample ID: 400-162396-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron - DL	3.5		0.25	0.11	mg/L	25		6020	Total Recoverable
Calcium - DL	380		1.3	0.63	mg/L	25		6020	Total Recoverable
Arsenic - RA	0.0018		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium - RA	0.14		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium - RA	0.0016	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium - RA	0.0047	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	6500		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	3300		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	910		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.15				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 400-162396-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron - DL	17		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	480		5.0	2.5	mg/L	100		6020	Total Recoverable
Arsenic - RA	0.0015		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium - RA	0.058		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium - RA	0.0016	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium - RA	0.015		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	7300		130	85	mg/L	1		SM 2540C	Total/NA
Chloride	3600		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	960		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	3.26				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 400-162396-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0037		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.077		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.0013	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Boron - DL	11		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	220		5.0	2.5	mg/L	100		6020	Total Recoverable
Total Dissolved Solids	4400		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2200		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	580		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	6.52				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-10 — Lab Sample ID: 400-162396-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0033		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.095		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.00040	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Lithium	0.0048	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0028	I	0.015	0.0020	mg/L	5		6020	Total Recoverable
Boron - DL	12		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	440		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	6000		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2800		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	830		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	5.18				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-12 — Lab Sample ID: 400-162396-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	38		0.25	0.13	mg/L	5		6020	Total Recoverable
Barium - RA	0.014		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron - RA	0.071		0.050	0.021	mg/L	5		6020	Total Recoverable
Lithium - RA	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	490		10	6.8	mg/L	1		SM 2540C	Total/NA
Chloride	210		20	14	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	2.2	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.11				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 400-162396-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.014		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.068		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	35		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.013		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0012	I	0.0013	0.00071	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	490		10	6.8	mg/L	1		SM 2540C	Total/NA
Chloride	210		20	14	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.13		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	1.8	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: DUP-02 — Lab Sample ID: 400-162396-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0038		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.079		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Selenium	0.00075	I	0.0013	0.00071	mg/L	5		6020	Total Recoverable
Boron - DL	10		1.0	0.42	mg/L	100		6020	Total Recoverable
Calcium - DL	220		5.0	2.5	mg/L	100		6020	Total Recoverable
Lithium - RA	0.0056		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	4000		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2300		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	620		100	28	mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: FB-01 — Lab Sample ID: 400-162396-11

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-1	MW-2	Water	11/19/18 08:55	11/20/18 15:40
400-162396-2	MW-3	Water	11/19/18 11:03	11/20/18 15:40
400-162396-3	MW-6	Water	11/19/18 11:10	11/20/18 15:40
400-162396-4	MW-7	Water	11/19/18 12:25	11/20/18 15:40
400-162396-5	MW-8	Water	11/19/18 15:15	11/20/18 15:40
400-162396-6	MW-9	Water	11/20/18 08:44	11/20/18 15:40
400-162396-7	MW-10	Water	11/20/18 10:30	11/20/18 15:40
400-162396-8	MW-12	Water	11/19/18 12:33	11/20/18 15:40
400-162396-9	DUP-01	Water	11/19/18 11:33	11/20/18 15:40
400-162396-10	DUP-02	Water	11/20/18 07:44	11/20/18 15:40
400-162396-11	FB-01	Water	11/20/18 11:25	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-2

Date Collected: 11/19/18 08:55
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-1

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**20**		0.25	0.13	mg/L		11/30/18 10:45	11/30/18 16:35	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:35	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 17:07	5
Barium	**0.013**		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 17:07	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 17:07	5
Boron	**0.045**	**I**	0.050	0.021	mg/L		11/30/18 10:45	12/04/18 17:07	5
Chromium	**0.0019**	**I**	0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 17:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 17:07	5
Lithium	**0.0028**	**I**	0.0050	0.0011	mg/L		11/30/18 10:45	12/04/18 17:07	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 17:07	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**88**		5.0	3.4	mg/L			11/26/18 10:09	1
Chloride	**13**		2.0	1.4	mg/L			11/28/18 12:36	1
Fluoride	**0.12**		0.10	0.032	mg/L			11/28/18 12:22	1
Sulfate	**4.4**	**I**	5.0	1.4	mg/L			11/27/18 13:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.09**				SU			11/19/18 08:55	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-3

Date Collected: 11/19/18 11:03
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-2

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**1.8**		0.25	0.13	mg/L		11/30/18 10:45	11/30/18 16:39	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:39	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 17:10	5
Barium	**0.019**		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 17:10	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 17:10	5
Boron	0.021	U	0.050	0.021	mg/L		11/30/18 10:45	12/04/18 17:10	5
Chromium	**0.0024**	**I**	0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 17:10	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 17:10	5
Lithium	**0.011**		0.0050	0.0011	mg/L		11/30/18 10:45	12/04/18 17:10	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 17:10	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**22**		5.0	3.4	mg/L			11/26/18 10:16	1
Chloride	**13**		2.0	1.4	mg/L			12/04/18 09:28	1
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			11/28/18 12:37	1
Sulfate	1.4	U	5.0	1.4	mg/L			11/27/18 13:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.95**				SU			11/19/18 11:03	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-6

Date Collected: 11/19/18 11:10
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:54	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**9.5**		1.0	0.42	mg/L		11/30/18 10:45	12/04/18 16:06	100
Calcium	**240**		5.0	2.5	mg/L		11/30/18 10:45	12/04/18 16:06	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00075**	**I**	0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 17:50	5
Barium	**0.062**		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 17:50	5
Beryllium	**0.0016**	**I**	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 17:50	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 17:50	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 17:50	5
Lithium	**0.024**		0.0050	0.0011	mg/L		11/30/18 10:45	12/07/18 20:24	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 17:50	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5500**		130	85	mg/L			11/26/18 10:09	1
Chloride	**3200**		160	110	mg/L			12/04/18 09:54	80
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			11/28/18 12:41	1
Sulfate	**520**		100	28	mg/L			12/03/18 09:56	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.26**				SU			11/19/18 11:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-7

Date Collected: 11/19/18 12:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:58	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.5**		0.25	0.11	mg/L		11/30/18 10:45	12/04/18 16:10	25
Calcium	**380**		1.3	0.63	mg/L		11/30/18 10:45	12/04/18 16:10	25

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0018**		0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 17:53	5
Barium	**0.14**		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 17:53	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 17:53	5
Chromium	**0.0016**	**I**	0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 17:53	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 17:53	5
Lithium	**0.0047**	**I**	0.0050	0.0011	mg/L		11/30/18 10:45	12/07/18 19:34	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 17:53	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6500**		130	85	mg/L			11/26/18 10:09	1
Chloride	**3300**		160	110	mg/L			12/04/18 09:54	80
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 12:44	1
Sulfate	**910**		150	42	mg/L			12/03/18 10:00	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.15**				SU			11/19/18 12:25	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-8

Date Collected: 11/19/18 15:15
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-5

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 17:20	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**17**		1.0	0.42	mg/L		11/30/18 10:45	12/04/18 16:13	100
Calcium	**480**		5.0	2.5	mg/L		11/30/18 10:45	12/04/18 16:13	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0015**		0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 17:57	5
Barium	**0.058**		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 17:57	5
Beryllium	**0.0016**	**I**	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 17:57	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 17:57	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 17:57	5
Lithium	**0.015**		0.0050	0.0011	mg/L		11/30/18 10:45	12/07/18 19:59	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 17:57	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7300**		130	85	mg/L			11/26/18 10:09	1
Chloride	**3600**		160	110	mg/L			12/04/18 09:54	80
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 12:48	1
Sulfate	**960**		150	42	mg/L			12/03/18 10:00	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**3.26**				SU			11/19/18 15:15	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-9

Date Collected: 11/20/18 08:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-6

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0037**		0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 17:47	5
Barium	**0.077**		0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 17:47	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 17:47	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 17:47	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 17:47	5
Lithium	**0.0013**	**I**	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 17:47	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 17:47	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 17:47	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**11**		1.0	0.42	mg/L		11/30/18 10:45	12/04/18 16:17	100
Calcium	**220**		5.0	2.5	mg/L		11/30/18 10:45	12/04/18 16:17	100

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4400**		50	34	mg/L			11/26/18 10:09	1
Chloride	**2200**		160	110	mg/L			12/04/18 09:58	80
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 12:51	1
Sulfate	**580**		100	28	mg/L			12/03/18 10:04	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.52**				SU			11/20/18 08:44	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-10

Date Collected: 11/20/18 10:30
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-7

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0033		0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 17:55	5
Barium	0.095		0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 17:55	5
Beryllium	0.00040	I	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 17:55	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 17:55	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 17:55	5
Lithium	0.0048	I	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 17:55	5
Molybdenum	0.0028	I	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 17:55	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 17:55	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12		2.0	0.84	mg/L		11/30/18 10:45	12/04/18 16:21	200
Calcium	440		10	5.0	mg/L		11/30/18 10:45	12/04/18 16:21	200

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000		50	34	mg/L			11/26/18 10:09	1
Chloride	2800		160	110	mg/L			12/04/18 10:05	80
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 12:55	1
Sulfate	830		150	42	mg/L			12/03/18 10:04	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.18				SU			11/20/18 10:30	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-12

Date Collected: 11/19/18 12:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-8

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**38**		0.25	0.13	mg/L		11/30/18 10:45	11/30/18 16:43	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:43	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 17:14	5
Barium	**0.014**		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 17:14	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 17:14	5
Boron	**0.071**		0.050	0.021	mg/L		11/30/18 10:45	12/04/18 17:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 17:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 17:14	5
Lithium	**0.011**		0.0050	0.0011	mg/L		11/30/18 10:45	12/04/18 17:14	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 17:14	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**490**		10	6.8	mg/L			11/26/18 10:16	1
Chloride	**210**		20	14	mg/L			12/04/18 09:54	10
Fluoride	**0.13**		0.10	0.032	mg/L			11/28/18 12:57	1
Sulfate	**2.2**	**I**	5.0	1.4	mg/L			12/03/18 09:22	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.11**				SU			11/19/18 12:33	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: DUP-01

Date Collected: 11/19/18 11:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-9

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 16:07	5
Barium	**0.014**		0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 16:07	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 16:07	5
Boron	**0.068**		0.050	0.021	mg/L		11/30/18 10:45	11/30/18 16:07	5
Calcium	**35**		0.25	0.13	mg/L		11/30/18 10:45	11/30/18 16:07	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 16:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 16:07	5
Lithium	**0.013**		0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 16:07	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:07	5
Selenium	**0.0012**	**I**	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 16:07	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**490**		10	6.8	mg/L			11/26/18 10:16	1
Chloride	**210**		20	14	mg/L			12/04/18 09:58	10
Fluoride	**0.13**		0.10	0.032	mg/L			11/28/18 14:35	1
Sulfate	**1.8**	**I**	5.0	1.4	mg/L			12/03/18 09:22	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: DUP-02

Date Collected: 11/20/18 07:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-10

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0038**		0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 16:10	5
Barium	**0.079**		0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 16:10	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 16:10	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 16:10	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:10	5
Selenium	**0.00075**	**I**	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 16:10	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**10**		1.0	0.42	mg/L		11/30/18 10:45	12/04/18 16:24	100
Calcium	**220**		5.0	2.5	mg/L		11/30/18 10:45	12/04/18 16:24	100

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 18:01	5
Lithium	**0.0056**		0.0050	0.0011	mg/L		11/30/18 10:45	12/07/18 20:03	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4000**		50	34	mg/L			11/26/18 10:09	1
Chloride	**2300**		160	110	mg/L			12/04/18 10:05	80
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			11/28/18 14:42	1
Sulfate	**620**		100	28	mg/L			12/03/18 10:08	20

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: FB-01

Date Collected: 11/20/18 11:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-11

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 16:32	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 16:32	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 16:32	5
Boron	0.021	U	0.050	0.021	mg/L		11/30/18 10:45	11/30/18 16:32	5
Calcium	0.13	U	0.25	0.13	mg/L		11/30/18 10:45	11/30/18 16:32	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 16:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 16:32	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 16:32	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:32	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 16:32	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/26/18 10:16	1
Chloride	1.4	U	2.0	1.4	mg/L			12/04/18 09:35	1
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 14:46	1
Sulfate	1.4	U	5.0	1.4	mg/L			12/03/18 09:27	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-2
Date Collected: 11/19/18 08:55
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:35	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 17:07	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	421176	11/28/18 12:36	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:22	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420988	11/27/18 13:30	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 08:55	CDH	TAL PEN

Client Sample ID: MW-3
Date Collected: 11/19/18 11:03
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:39	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 17:10	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420777	11/26/18 10:16	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	421838	12/04/18 09:28	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:37	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	420988	11/27/18 13:25	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 11:03	CDH	TAL PEN

Client Sample ID: MW-6
Date Collected: 11/19/18 11:10
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:54	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	422045	12/04/18 16:06	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 17:50	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422591	12/07/18 20:24	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 09:54	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:41	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	421795	12/03/18 09:56	RRC	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 11:10	CDH	TAL PEN

Client Sample ID: MW-7 — Lab Sample ID: 400-162396-4

Date Collected: 11/19/18 12:25 — **Matrix: Water**
Date Received: 11/20/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:58	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	422045	12/04/18 16:10	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 17:53	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422591	12/07/18 19:34	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 09:54	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:44	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	421795	12/03/18 10:00	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 12:25	CDH	TAL PEN

Client Sample ID: MW-8 — Lab Sample ID: 400-162396-5

Date Collected: 11/19/18 15:15 — **Matrix: Water**
Date Received: 11/20/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 17:20	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	422045	12/04/18 16:13	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 17:57	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422591	12/07/18 19:59	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 09:54	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:48	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	421795	12/03/18 10:00	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 15:15	CDH	TAL PEN

Client Sample ID: MW-9 — Lab Sample ID: 400-162396-6

Date Collected: 11/20/18 08:44 — **Matrix: Water**
Date Received: 11/20/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: MW-9
Date Collected: 11/20/18 08:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020		5	421723	11/30/18 17:47	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	422045	12/04/18 16:17	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 09:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:51	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	421795	12/03/18 10:04	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/20/18 08:44	CDH	TAL PEN

Client Sample ID: MW-10
Date Collected: 11/20/18 10:30
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 17:55	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	200	422045	12/04/18 16:21	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 10:05	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:55	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	421795	12/03/18 10:04	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/20/18 10:30	CDH	TAL PEN

Client Sample ID: MW-12
Date Collected: 11/19/18 12:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:43	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 17:14	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420777	11/26/18 10:16	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		10	421838	12/04/18 09:54	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421135	11/28/18 12:57	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	421795	12/03/18 09:22	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 12:33	CDH	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Client Sample ID: DUP-01
Date Collected: 11/19/18 11:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:07	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420777	11/26/18 10:16	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		10	421838	12/04/18 09:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421180	11/28/18 14:35	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	421795	12/03/18 09:22	RRC	TAL PEN

Client Sample ID: DUP-02
Date Collected: 11/20/18 07:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:10	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	422045	12/04/18 16:24	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 18:01	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422591	12/07/18 20:03	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 10:05	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421180	11/28/18 14:42	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	421795	12/03/18 10:08	RRC	TAL PEN

Client Sample ID: FB-01
Date Collected: 11/20/18 11:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:32	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420777	11/26/18 10:16	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	421838	12/04/18 09:35	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421180	11/28/18 14:46	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	421795	12/03/18 09:27	RRC	TAL PEN

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Metals

Prep Batch: 421465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total Recoverable	Water	3005A	
400-162396-1 - RA	MW-2	Total Recoverable	Water	3005A	
400-162396-2	MW-3	Total Recoverable	Water	3005A	
400-162396-2 - RA	MW-3	Total Recoverable	Water	3005A	
400-162396-3	MW-6	Total Recoverable	Water	3005A	
400-162396-3 - DL	MW-6	Total Recoverable	Water	3005A	
400-162396-3 - RA	MW-6	Total Recoverable	Water	3005A	
400-162396-4 - RA	MW-7	Total Recoverable	Water	3005A	
400-162396-4 - DL	MW-7	Total Recoverable	Water	3005A	
400-162396-4	MW-7	Total Recoverable	Water	3005A	
400-162396-5	MW-8	Total Recoverable	Water	3005A	
400-162396-5 - RA	MW-8	Total Recoverable	Water	3005A	
400-162396-5 - DL	MW-8	Total Recoverable	Water	3005A	
400-162396-6 - DL	MW-9	Total Recoverable	Water	3005A	
400-162396-6	MW-9	Total Recoverable	Water	3005A	
400-162396-7 - DL	MW-10	Total Recoverable	Water	3005A	
400-162396-7	MW-10	Total Recoverable	Water	3005A	
400-162396-8 - RA	MW-12	Total Recoverable	Water	3005A	
400-162396-8	MW-12	Total Recoverable	Water	3005A	
400-162396-9	DUP-01	Total Recoverable	Water	3005A	
400-162396-10 - RA	DUP-02	Total Recoverable	Water	3005A	
400-162396-10 - DL	DUP-02	Total Recoverable	Water	3005A	
400-162396-10	DUP-02	Total Recoverable	Water	3005A	
400-162396-11	FB-01	Total Recoverable	Water	3005A	
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 421723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total Recoverable	Water	6020	421465
400-162396-2	MW-3	Total Recoverable	Water	6020	421465
400-162396-3	MW-6	Total Recoverable	Water	6020	421465
400-162396-4	MW-7	Total Recoverable	Water	6020	421465
400-162396-5	MW-8	Total Recoverable	Water	6020	421465
400-162396-6	MW-9	Total Recoverable	Water	6020	421465
400-162396-7	MW-10	Total Recoverable	Water	6020	421465
400-162396-8	MW-12	Total Recoverable	Water	6020	421465
400-162396-9	DUP-01	Total Recoverable	Water	6020	421465
400-162396-10	DUP-02	Total Recoverable	Water	6020	421465
400-162396-11	FB-01	Total Recoverable	Water	6020	421465
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	6020	421465
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	6020	421465
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	421465
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	421465

Analysis Batch: 422045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1 - RA	MW-2	Total Recoverable	Water	6020	421465
400-162396-2 - RA	MW-3	Total Recoverable	Water	6020	421465

Metals (Continued)

Analysis Batch: 422045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-3 - DL	MW-6	Total Recoverable	Water	6020	421465
400-162396-3 - RA	MW-6	Total Recoverable	Water	6020	421465
400-162396-4 - DL	MW-7	Total Recoverable	Water	6020	421465
400-162396-4 - RA	MW-7	Total Recoverable	Water	6020	421465
400-162396-5 - DL	MW-8	Total Recoverable	Water	6020	421465
400-162396-5 - RA	MW-8	Total Recoverable	Water	6020	421465
400-162396-6 - DL	MW-9	Total Recoverable	Water	6020	421465
400-162396-7 - DL	MW-10	Total Recoverable	Water	6020	421465
400-162396-8 - RA	MW-12	Total Recoverable	Water	6020	421465
400-162396-10 - DL	DUP-02	Total Recoverable	Water	6020	421465
400-162396-10 - RA	DUP-02	Total Recoverable	Water	6020	421465

Analysis Batch: 422591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-3 - RA	MW-6	Total Recoverable	Water	6020	421465
400-162396-4 - RA	MW-7	Total Recoverable	Water	6020	421465
400-162396-5 - RA	MW-8	Total Recoverable	Water	6020	421465
400-162396-10 - RA	DUP-02	Total Recoverable	Water	6020	421465

General Chemistry

Analysis Batch: 420775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	SM 2540C	
400-162396-3	MW-6	Total/NA	Water	SM 2540C	
400-162396-4	MW-7	Total/NA	Water	SM 2540C	
400-162396-5	MW-8	Total/NA	Water	SM 2540C	
400-162396-6	MW-9	Total/NA	Water	SM 2540C	
400-162396-7	MW-10	Total/NA	Water	SM 2540C	
400-162396-10	DUP-02	Total/NA	Water	SM 2540C	
MB 400-420775/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-420775/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-162396-1 DU	MW-2	Total/NA	Water	SM 2540C	

Analysis Batch: 420777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-2	MW-3	Total/NA	Water	SM 2540C	
400-162396-8	MW-12	Total/NA	Water	SM 2540C	
400-162396-9	DUP-01	Total/NA	Water	SM 2540C	
400-162396-11	FB-01	Total/NA	Water	SM 2540C	
MB 400-420777/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-420777/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-162375-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 420988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	SM 4500 SO4 E	
400-162396-2	MW-3	Total/NA	Water	SM 4500 SO4 E	
MB 400-420988/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-420988/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 420988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 400-420988/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-162396-2 MS	MW-3	Total/NA	Water	SM 4500 SO4 E	
400-162396-2 MSD	MW-3	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 421135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	SM 4500 F C	
400-162396-2	MW-3	Total/NA	Water	SM 4500 F C	
400-162396-3	MW-6	Total/NA	Water	SM 4500 F C	
400-162396-4	MW-7	Total/NA	Water	SM 4500 F C	
400-162396-5	MW-8	Total/NA	Water	SM 4500 F C	
400-162396-6	MW-9	Total/NA	Water	SM 4500 F C	
400-162396-7	MW-10	Total/NA	Water	SM 4500 F C	
400-162396-8	MW-12	Total/NA	Water	SM 4500 F C	
MB 400-421135/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-421135/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
240-104506-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
240-104506-D-2 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
240-104521-C-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
240-104521-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 421176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	SM 4500 Cl- E	
MB 400-421176/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-421176/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-421176/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-162375-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-162375-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 421180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-9	DUP-01	Total/NA	Water	SM 4500 F C	
400-162396-10	DUP-02	Total/NA	Water	SM 4500 F C	
400-162396-11	FB-01	Total/NA	Water	SM 4500 F C	
MB 400-421180/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-421180/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-162396-9 MS	DUP-01	Total/NA	Water	SM 4500 F C	
400-162396-9 MSD	DUP-01	Total/NA	Water	SM 4500 F C	
400-162396-A-17 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 421795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-3	MW-6	Total/NA	Water	SM 4500 SO4 E	
400-162396-4	MW-7	Total/NA	Water	SM 4500 SO4 E	
400-162396-5	MW-8	Total/NA	Water	SM 4500 SO4 E	
400-162396-6	MW-9	Total/NA	Water	SM 4500 SO4 E	
400-162396-7	MW-10	Total/NA	Water	SM 4500 SO4 E	
400-162396-8	MW-12	Total/NA	Water	SM 4500 SO4 E	
400-162396-9	DUP-01	Total/NA	Water	SM 4500 SO4 E	
400-162396-10	DUP-02	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 421795 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-11	FB-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-421795/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-421795/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-421795/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-162459-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-162459-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	
400-162568-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-162568-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 421838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-2	MW-3	Total/NA	Water	SM 4500 Cl- E	
400-162396-3	MW-6	Total/NA	Water	SM 4500 Cl- E	
400-162396-4	MW-7	Total/NA	Water	SM 4500 Cl- E	
400-162396-5	MW-8	Total/NA	Water	SM 4500 Cl- E	
400-162396-6	MW-9	Total/NA	Water	SM 4500 Cl- E	
400-162396-7	MW-10	Total/NA	Water	SM 4500 Cl- E	
400-162396-8	MW-12	Total/NA	Water	SM 4500 Cl- E	
400-162396-9	DUP-01	Total/NA	Water	SM 4500 Cl- E	
400-162396-10	DUP-02	Total/NA	Water	SM 4500 Cl- E	
400-162396-11	FB-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-421838/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-421838/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-421838/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-162396-2 MS	MW-3	Total/NA	Water	SM 4500 Cl- E	
400-162396-2 MSD	MW-3	Total/NA	Water	SM 4500 Cl- E	

Field Service / Mobile Lab

Analysis Batch: 421915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	Field Sampling	
400-162396-2	MW-3	Total/NA	Water	Field Sampling	
400-162396-3	MW-6	Total/NA	Water	Field Sampling	
400-162396-4	MW-7	Total/NA	Water	Field Sampling	
400-162396-5	MW-8	Total/NA	Water	Field Sampling	
400-162396-6	MW-9	Total/NA	Water	Field Sampling	
400-162396-7	MW-10	Total/NA	Water	Field Sampling	
400-162396-8	MW-12	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-421465/1-A ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 15:42	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 15:42	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 15:42	5
Boron	0.021	U	0.050	0.021	mg/L		11/30/18 10:45	11/30/18 15:42	5
Calcium	0.13	U	0.25	0.13	mg/L		11/30/18 10:45	11/30/18 15:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 15:42	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 15:42	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 15:42	5

Lab Sample ID: LCS 400-421465/2-A
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0495		mg/L		99	80 - 120
Barium	0.0500	0.0483		mg/L		97	80 - 120
Beryllium	0.0500	0.0560		mg/L		112	80 - 120
Boron	0.100	0.106		mg/L		106	80 - 120
Calcium	5.00	4.89		mg/L		98	80 - 120
Chromium	0.0500	0.0498		mg/L		100	80 - 120
Cobalt	0.0500	0.0518		mg/L		104	80 - 120
Lithium	0.0500	0.0548		mg/L		110	80 - 120
Molybdenum	0.0500	0.0477		mg/L		95	80 - 120
Selenium	0.0500	0.0492		mg/L		98	80 - 120

Lab Sample ID: 400-162402-C-9-B MS ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.023		0.0500	0.0745		mg/L		102	75 - 125
Barium	0.0014	I	0.0500	0.0512		mg/L		100	75 - 125
Beryllium	0.00034	U	0.0500	0.0504		mg/L		101	75 - 125
Boron	0.030	I	0.100	0.135		mg/L		104	75 - 125
Calcium	6.0		5.00	10.9		mg/L		99	75 - 125
Chromium	0.0011	U	0.0500	0.0509		mg/L		102	75 - 125
Cobalt	0.00040	U	0.0500	0.0530		mg/L		106	75 - 125
Lithium	0.0011	U	0.0500	0.0510		mg/L		102	75 - 125
Molybdenum	0.0046	I	0.0500	0.0544		mg/L		99	75 - 125
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125

Lab Sample ID: 400-162402-C-9-C MSD ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.023		0.0500	0.0753		mg/L		104	75 - 125	1	20

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

Lab Sample ID: 400-162402-C-9-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 421723 — **Prep Batch: 421465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.0014	I	0.0500	0.0516		mg/L		100	75 - 125	1	20
Beryllium	0.00034	U	0.0500	0.0506		mg/L		101	75 - 125	0	20
Boron	0.030	I	0.100	0.131		mg/L		101	75 - 125	3	20
Calcium	6.0		5.00	11.0		mg/L		100	75 - 125	1	20
Chromium	0.0011	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Cobalt	0.00040	U	0.0500	0.0536		mg/L		107	75 - 125	1	20
Lithium	0.0011	U	0.0500	0.0516		mg/L		103	75 - 125	1	20
Molybdenum	0.0046	I	0.0500	0.0542		mg/L		99	75 - 125	0	20
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125	0	20

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

Lab Sample ID: MB 400-420775/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/26/18 10:09	1

Lab Sample ID: LCS 400-420775/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	350		mg/L		119	78 - 122

Lab Sample ID: 400-162396-1 DU — **Client Sample ID: MW-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	88		88.0		mg/L		0	5

Lab Sample ID: MB 400-420777/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420777

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/26/18 10:16	1

Lab Sample ID: LCS 400-420777/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420777

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	256		mg/L		87	78 - 122

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

Lab Sample ID: 400-162375-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420777

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	230			226		mg/L				0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-421176/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421176

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			11/28/18 12:26	1

Lab Sample ID: LCS 400-421176/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421176

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			30.0	31.9		mg/L		106	90 - 110		

Lab Sample ID: MRL 400-421176/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421176

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			2.00	1.60	I	mg/L		80	50 - 150		

Lab Sample ID: 400-162375-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421176

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	15		10.0	25.1		mg/L		97	73 - 120		

Lab Sample ID: 400-162375-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421176

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	15		10.0	24.8		mg/L		94	73 - 120	1	8

Lab Sample ID: MB 400-421838/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			12/04/18 09:25	1

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

Lab Sample ID: LCS 400-421838/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

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 400-421838/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.69	I	mg/L		84	50 - 150

Lab Sample ID: 400-162396-2 MS — **Client Sample ID: MW-3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	13		10.0	23.5		mg/L		107	73 - 120

Lab Sample ID: 400-162396-2 MSD — **Client Sample ID: MW-3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		10.0	23.2		mg/L		105	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-421135/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421135

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 11:49	1

Lab Sample ID: LCS 400-421135/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421135

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.98		mg/L		100	90 - 110

Lab Sample ID: 240-104506-B-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421135

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.96		1.00	1.92		mg/L		96	75 - 125	0	4

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 240-104506-D-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421135

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.96		1.00	1.92		mg/L		96	75 - 125		

Lab Sample ID: 240-104521-C-5 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421135

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.93		1.00	1.89		mg/L		96	75 - 125		

Lab Sample ID: 240-104521-C-5 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421135

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.93		1.00	1.89		mg/L		96	75 - 125	0	4

Lab Sample ID: MB 400-421180/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 14:20	1

Lab Sample ID: LCS 400-421180/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.90		mg/L		98	90 - 110		

Lab Sample ID: 400-162396-9 MS — **Client Sample ID: DUP-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125		

Lab Sample ID: 400-162396-9 MSD — **Client Sample ID: DUP-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125	0	4

Lab Sample ID: 400-162396-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-420988/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420988

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			11/27/18 13:19	1

Lab Sample ID: LCS 400-420988/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420988

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	16.1		mg/L		107	90 - 110

Lab Sample ID: MRL 400-420988/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420988

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.48	I	mg/L		90	50 - 150

Lab Sample ID: 400-162396-2 MS — **Client Sample ID: MW-3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420988

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1.4	U	10.0	8.50		mg/L		85	77 - 128

Lab Sample ID: 400-162396-2 MSD — **Client Sample ID: MW-3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420988

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.4	U	10.0	8.92		mg/L		89	77 - 128	5	5

Lab Sample ID: MB 400-421795/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			12/03/18 09:16	1

Lab Sample ID: LCS 400-421795/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

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

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

Lab Sample ID: MRL 400-421795/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.12	I	mg/L		82	50 - 150		

Lab Sample ID: 400-162459-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	720		9.90	696	J3	mg/L		-277	77 - 128		

Lab Sample ID: 400-162459-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	720		9.90	688	J3	mg/L		-355	77 - 128	1	5

Lab Sample ID: 400-162568-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	1.4	U	10.0	8.07		mg/L		81	77 - 128		

Lab Sample ID: 400-162568-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.4	U	10.0	8.74	J3	mg/L		87	77 - 128	8	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
Client Contact: Kristi Mitchell
Company: Gulf Power Company
Address: BIN 731 One Energy Place
City: Pensacola
State, Zip: FL, 32520
Phone: 850-444-6427(Tel)
Email: krmitche@southernco.com
Project Name: CCR Smith Plant
Site:

Sampler: Brett Sustes
Phone: 380 2458
Due Date Requested:
TAT Requested (days):
PO #: Purchase Order not required
WO #:
Project #: 40006609
SSOW#:

Lab PM: Whitmire, Cheyenne R
E-Mail: cheyenne.whitmire@testamericainc.com
Carrier Tracking No(s):
COC No: 400-53432-23565.1
Page: Page 1 of 1
Job #: 162396

Analysis Requested

400-162396 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, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	X	
MW-2	11/19/18	0855	G	Water			X	X	X	X		
MW-3	11/19/18	1103	G	Water								
MW-6	11/19/18	1110	G	Water								
MW-7	11/19/18	1225	G	Water								
MW-8	11/19/18	1513	G	Water								
MW-9	11/20/18	0844	G	Water								
MW-10	11/20/18	1030	G	Water								
MW-12	11/19/18	1233	G	Water								
Dup-01	11/19/18	1133	G	Water								
Dup-02	11/20/18	0744	G	Water								
FB-01	11/20/18	1125	G	Water			V	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
[signature]	11/20/18 1540	RDH	[signature]	11-20-18 1540	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-1
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-1
SDG: Ashpond

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	12-31-19
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

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: 400-162396-2
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/28/2018 2:03:28 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 17
Chronicle 18
QC Association 21
QC Sample Results 22
Chain of Custody 24
Receipt Checklists 25
Certification Summary 27

Job ID: 400-162396-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Bach 403456: The following samples were reduced due to potential matrix interference: MW-2 (400-162396-1), MW-3 (400-162396-2), MW-7 (400-162396-4), MW-9 (400-162396-6), MW-10 (400-162396-7) and DUP-02 (400-162396-10). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method(s) PrecSep-21: Radium 226 Prep Bach 403442: The following samples were reduced due to potential matrix interference: MW-2 (400-162396-1), MW-3 (400-162396-2), MW-7 (400-162396-4), MW-9 (400-162396-6), MW-10 (400-162396-7) and DUP-02 (400-162396-10). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-1	MW-2	Water	11/19/18 08:55	11/20/18 15:40
400-162396-2	MW-3	Water	11/19/18 11:03	11/20/18 15:40
400-162396-3	MW-6	Water	11/19/18 11:10	11/20/18 15:40
400-162396-4	MW-7	Water	11/19/18 12:25	11/20/18 15:40
400-162396-5	MW-8	Water	11/19/18 15:15	11/20/18 15:40
400-162396-6	MW-9	Water	11/20/18 08:44	11/20/18 15:40
400-162396-7	MW-10	Water	11/20/18 10:30	11/20/18 15:40
400-162396-8	MW-12	Water	11/19/18 12:33	11/20/18 15:40
400-162396-9	DUP-01	Water	11/19/18 11:33	11/20/18 15:40
400-162396-10	DUP-02	Water	11/20/18 07:44	11/20/18 15:40
400-162396-11	FB-01	Water	11/20/18 11:25	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-2

Date Collected: 11/19/18 08:55
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-1

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	**0.596**		0.149	0.158	1.00	0.0935	pCi/L	11/29/18 15:08	12/21/18 05:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:53*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.167	U	0.265	0.266	1.00	0.448	pCi/L	11/29/18 16:50	12/11/18 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*1*
Y Carrier	*83.4*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*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	**0.763**		0.304	0.309	5.00	0.448	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-3

Date Collected: 11/19/18 11:03
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-2

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	1.33		0.227	0.256	1.00	0.114	pCi/L	11/29/18 15:08	12/21/18 05:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:53*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.846		0.403	0.411	1.00	0.591	pCi/L	11/29/18 16:50	12/11/18 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*1*
Y Carrier	*75.1*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*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	2.18		0.463	0.484	5.00	0.591	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-6

Date Collected: 11/19/18 11:10
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-3

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	9.89		0.538	1.04	1.00	0.0838	pCi/L	11/29/18 15:08	12/21/18 05:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:53*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	17.5		0.915	1.85	1.00	0.414	pCi/L	11/29/18 16:50	12/11/18 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*1*
Y Carrier	*80.7*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*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	27.4		1.06	2.12	5.00	0.414	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-7

Date Collected: 11/19/18 12:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-4

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	44.9		1.32	4.25	1.00	0.125	pCi/L	11/29/18 15:08	12/21/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	8.57		0.753	1.09	1.00	0.499	pCi/L	11/29/18 16:50	12/11/18 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*1*
Y Carrier	*78.5*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*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	53.5		1.52	4.39	5.00	0.499	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-8

Date Collected: 11/19/18 15:15
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-5

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	12.1		0.608	1.25	1.00	0.0972	pCi/L	11/29/18 15:08	12/21/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.7*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	21.5		1.01	2.22	1.00	0.376	pCi/L	11/29/18 16:50	12/11/18 11:59	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.7*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*1*
Y Carrier	*77.8*		*40 - 110*	*11/29/18 16:50*	*12/11/18 11:59*	*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	33.6		1.18	2.55	5.00	0.376	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-9

Date Collected: 11/20/18 08:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-6

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	7.76		0.564	0.898	1.00	0.133	pCi/L	11/29/18 15:08	12/21/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.39		0.609	0.786	1.00	0.501	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*81.1*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	13.2		0.830	1.19	5.00	0.501	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-10

Date Collected: 11/20/18 10:30
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-7

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	5.15		0.471	0.661	1.00	0.146	pCi/L	11/29/18 15:08	12/21/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	14.7		0.976	1.67	1.00	0.521	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*78.9*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	19.8		1.08	1.80	5.00	0.521	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-12

Date Collected: 11/19/18 12:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-8

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	1.98		0.248	0.305	1.00	0.0915	pCi/L	11/29/18 15:08	12/21/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.391		0.236	0.239	1.00	0.357	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*80.7*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	2.37		0.342	0.387	5.00	0.357	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: DUP-01

Date Collected: 11/19/18 11:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-9

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	2.07		0.254	0.315	1.00	0.101	pCi/L	11/29/18 15:08	12/21/18 05:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.586		0.261	0.266	1.00	0.364	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*75.5*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	2.66		0.364	0.412	5.00	0.364	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: DUP-02

Date Collected: 11/20/18 07:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-10

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	7.97		0.554	0.907	1.00	0.129	pCi/L	11/29/18 15:08	12/21/18 05:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:58*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.34		0.567	0.694	1.00	0.497	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*79.6*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	12.3		0.793	1.14	5.00	0.497	pCi/L		12/27/18 15:10	1

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: FB-01

Date Collected: 11/20/18 11:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-11

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	0.0215	U	0.0578	0.0578	1.00	0.108	pCi/L	11/29/18 15:08	12/21/18 05:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*11/29/18 15:08*	*12/21/18 05:58*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.222	U	0.231	0.231	1.00	0.376	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.7*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*81.5*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	0.244	U	0.238	0.238	5.00	0.376	pCi/L		12/27/18 15:10	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-2
Date Collected: 11/19/18 08:55
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406937	12/21/18 05:53	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 11:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: MW-3
Date Collected: 11/19/18 11:03
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406937	12/21/18 05:53	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 11:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: MW-6
Date Collected: 11/19/18 11:10
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406937	12/21/18 05:53	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 11:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: MW-7
Date Collected: 11/19/18 12:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 11:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: MW-8
Date Collected: 11/19/18 15:15
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 11:59	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: MW-9
Date Collected: 11/20/18 08:44
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 11/20/18 10:30
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: MW-12
Date Collected: 11/19/18 12:33
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Lab Chronicle

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Client Sample ID: DUP-01
Lab Sample ID: 400-162396-9

Date Collected: 11/19/18 11:33
Date Received: 11/20/18 15:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:57	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: DUP-02
Lab Sample ID: 400-162396-10

Date Collected: 11/20/18 07:44
Date Received: 11/20/18 15:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:58	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Client Sample ID: FB-01
Lab Sample ID: 400-162396-11

Date Collected: 11/20/18 11:25
Date Received: 11/20/18 15:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 05:58	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Rad

Prep Batch: 403442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	PrecSep-21	
400-162396-2	MW-3	Total/NA	Water	PrecSep-21	
400-162396-3	MW-6	Total/NA	Water	PrecSep-21	
400-162396-4	MW-7	Total/NA	Water	PrecSep-21	
400-162396-5	MW-8	Total/NA	Water	PrecSep-21	
400-162396-6	MW-9	Total/NA	Water	PrecSep-21	
400-162396-7	MW-10	Total/NA	Water	PrecSep-21	
400-162396-8	MW-12	Total/NA	Water	PrecSep-21	
400-162396-9	DUP-01	Total/NA	Water	PrecSep-21	
400-162396-10	DUP-02	Total/NA	Water	PrecSep-21	
400-162396-11	FB-01	Total/NA	Water	PrecSep-21	
MB 160-403442/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-403442/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
190-18211-K-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 403456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-1	MW-2	Total/NA	Water	PrecSep_0	
400-162396-2	MW-3	Total/NA	Water	PrecSep_0	
400-162396-3	MW-6	Total/NA	Water	PrecSep_0	
400-162396-4	MW-7	Total/NA	Water	PrecSep_0	
400-162396-5	MW-8	Total/NA	Water	PrecSep_0	
400-162396-6	MW-9	Total/NA	Water	PrecSep_0	
400-162396-7	MW-10	Total/NA	Water	PrecSep_0	
400-162396-8	MW-12	Total/NA	Water	PrecSep_0	
400-162396-9	DUP-01	Total/NA	Water	PrecSep_0	
400-162396-10	DUP-02	Total/NA	Water	PrecSep_0	
400-162396-11	FB-01	Total/NA	Water	PrecSep_0	
MB 160-403456/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-403456/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
190-18211-K-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-403442/23-A
Matrix: Water
Analysis Batch: 406936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403442

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04330	U	0.0728	0.0729	1.00	0.128	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Lab Sample ID: LCS 160-403442/1-A
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403442

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.52		1.40	1.00	0.105	pCi/L	89	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*

Lab Sample ID: 190-18211-K-1-A DU
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403442

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	-0.0210	U		0.02970	U	0.0462	1.00	0.0801	pCi/L			0.76	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-403456/23-A
Matrix: Water
Analysis Batch: 404941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403456

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3483	U	0.296	0.298	1.00	0.472	pCi/L	11/29/18 16:50	12/11/18 12:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*
Y Carrier	*80.4*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*

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

Lab Sample ID: LCS 160-403456/1-A
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403456

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	11.44		1.34	1.00	0.504	pCi/L	94	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Lab Sample ID: 190-18211-K-1-B DU
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403456

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.112	U		0.05438	U	0.209	1.00	0.366	pCi/L			0.14	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*
Y Carrier	*84.1*		*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: Brett Sustes	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-53432-23565.1
Client Contact: Kristi Mitchell	Phone: 380 2458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Gulf Power Company				Job #: 162396
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site:	SSOW#:			

Analysis Requested

400-162396 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, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-2	11/19/18	0855	G	Water			X	X	X	X		
MW-3	11/19/18	1103	G	Water								
MW-6	11/19/18	1110	G	Water								
MW-7	11/19/18	1225	G	Water								
MW-8	11/19/18	1513	G	Water								
MW-9	11/20/18	0844	G	Water								
MW-10	11/20/18	1030	G	Water								
MW-12	11/19/18	1233	G	Water								
Dup-01	11/19/18	1133	G	Water								
Dup-02	11/20/18	0744	G	Water								
FB-01	11/20/18	1125	G	Water			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
[signature]	11/20/18 1540	RDH	[signature]	11-20-18 1540	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-2
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company

Job Number: 400-162396-2
SDG Number: Ashpond

Login Number: 162396
List Number: 2
Creator: Dupart, Lacee S

List Source: TestAmerica St. Louis
List Creation: 11/27/18 02:25 PM

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	19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

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	12-31-19
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA017	12-31-19
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	12-31-19
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	12-08-19
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-2
SDG: Ashpond

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-162396-3
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/14/2018 4:39:31 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 400-162396-3

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-3

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-162396-12). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-162396-12). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 421795 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample the MS/MSD were diluted after the spike. The spike amounts were adjusted by the dilution factor. (400-162459-A-1 MS) and (400-162459-A-1 MSD)

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 421795 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-11 (400-162396-12), (400-162459-A-1), (400-162459-A-1 MS) and (400-162459-A-1 MSD). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Client Sample ID: MW-11 — Lab Sample ID: 400-162396-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.0069	I	0.015	0.0020	mg/L	5		6020	Total Recoverable
Boron - DL	4.1		0.50	0.21	mg/L	50		6020	Total Recoverable
Calcium - DL	120		2.5	1.3	mg/L	50		6020	Total Recoverable
Arsenic - RA	0.015		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium - RA	0.11		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium - RA	0.0011	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Chromium - RA	0.0036		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium - RA	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	4100		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2400		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Sulfate	250		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	6.35				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-12	MW-11	Water	11/20/18 11:46	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Client Sample ID: MW-11

Date Collected: 11/20/18 11:46
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-12

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0069	I	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 16:46	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.1		0.50	0.21	mg/L		11/30/18 10:45	12/04/18 16:28	50
Calcium	120		2.5	1.3	mg/L		11/30/18 10:45	12/04/18 16:28	50

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015		0.0013	0.00046	mg/L		11/30/18 10:45	12/04/18 18:05	5
Barium	0.11		0.0025	0.00049	mg/L		11/30/18 10:45	12/04/18 18:05	5
Beryllium	0.0011	I	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 18:05	5
Chromium	0.0036		0.0025	0.0011	mg/L		11/30/18 10:45	12/04/18 18:05	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	12/04/18 18:05	5
Lithium	0.011		0.0050	0.0011	mg/L		11/30/18 10:45	12/07/18 19:37	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	12/04/18 18:05	5

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4100		50	34	mg/L			11/26/18 10:09	1
Chloride	2400		160	110	mg/L			12/04/18 10:05	80
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 14:49	1
Sulfate	250		100	28	mg/L			12/03/18 10:08	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.35				SU			11/20/18 11:46	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Qualifiers

Metals

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation 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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Client Sample ID: MW-11

Date Collected: 11/20/18 11:46
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 16:46	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	50	422045	12/04/18 16:28	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 18:05	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422591	12/07/18 19:37	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 10:05	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421180	11/28/18 14:49	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	421795	12/03/18 10:08	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/20/18 11:46	CDH	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Metals

Prep Batch: 421465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total Recoverable	Water	3005A	
400-162396-12 - RA	MW-11	Total Recoverable	Water	3005A	
400-162396-12 - DL	MW-11	Total Recoverable	Water	3005A	
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 421723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total Recoverable	Water	6020	421465
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	6020	421465
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	6020	421465
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	421465
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	421465

Analysis Batch: 422045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12 - DL	MW-11	Total Recoverable	Water	6020	421465
400-162396-12 - RA	MW-11	Total Recoverable	Water	6020	421465

Analysis Batch: 422591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12 - RA	MW-11	Total Recoverable	Water	6020	421465

General Chemistry

Analysis Batch: 420775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	SM 2540C	
MB 400-420775/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-420775/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-162396-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 421180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	SM 4500 F C	
MB 400-421180/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-421180/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-162396-A-9 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-162396-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-162396-A-17 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 421795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	SM 4500 SO4 E	
MB 400-421795/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-421795/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-421795/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-162568-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 421795 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162568-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 421838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	SM 4500 Cl- E	
MB 400-421838/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-421838/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-421838/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-162396-A-2 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-162396-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Field Service / Mobile Lab

Analysis Batch: 421915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-421465/1-A ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 15:42	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 15:42	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 15:42	5
Boron	0.021	U	0.050	0.021	mg/L		11/30/18 10:45	11/30/18 15:42	5
Calcium	0.13	U	0.25	0.13	mg/L		11/30/18 10:45	11/30/18 15:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 15:42	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 15:42	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 15:42	5

Lab Sample ID: LCS 400-421465/2-A
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0495		mg/L		99	80 - 120
Barium	0.0500	0.0483		mg/L		97	80 - 120
Beryllium	0.0500	0.0560		mg/L		112	80 - 120
Boron	0.100	0.106		mg/L		106	80 - 120
Calcium	5.00	4.89		mg/L		98	80 - 120
Chromium	0.0500	0.0498		mg/L		100	80 - 120
Cobalt	0.0500	0.0518		mg/L		104	80 - 120
Lithium	0.0500	0.0548		mg/L		110	80 - 120
Molybdenum	0.0500	0.0477		mg/L		95	80 - 120
Selenium	0.0500	0.0492		mg/L		98	80 - 120

Lab Sample ID: 400-162402-C-9-B MS ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.023		0.0500	0.0745		mg/L		102	75 - 125
Barium	0.0014	I	0.0500	0.0512		mg/L		100	75 - 125
Beryllium	0.00034	U	0.0500	0.0504		mg/L		101	75 - 125
Boron	0.030	I	0.100	0.135		mg/L		104	75 - 125
Calcium	6.0		5.00	10.9		mg/L		99	75 - 125
Chromium	0.0011	U	0.0500	0.0509		mg/L		102	75 - 125
Cobalt	0.00040	U	0.0500	0.0530		mg/L		106	75 - 125
Lithium	0.0011	U	0.0500	0.0510		mg/L		102	75 - 125
Molybdenum	0.0046	I	0.0500	0.0544		mg/L		99	75 - 125
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125

Lab Sample ID: 400-162402-C-9-C MSD ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.023		0.0500	0.0753		mg/L		104	75 - 125	1	20

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

Lab Sample ID: 400-162402-C-9-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 421723 — **Prep Batch: 421465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.0014	I	0.0500	0.0516		mg/L		100	75 - 125	1	20
Beryllium	0.00034	U	0.0500	0.0506		mg/L		101	75 - 125	0	20
Boron	0.030	I	0.100	0.131		mg/L		101	75 - 125	3	20
Calcium	6.0		5.00	11.0		mg/L		100	75 - 125	1	20
Chromium	0.0011	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Cobalt	0.00040	U	0.0500	0.0536		mg/L		107	75 - 125	1	20
Lithium	0.0011	U	0.0500	0.0516		mg/L		103	75 - 125	1	20
Molybdenum	0.0046	I	0.0500	0.0542		mg/L		99	75 - 125	0	20
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125	0	20

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

Lab Sample ID: MB 400-420775/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/26/18 10:09	1

Lab Sample ID: LCS 400-420775/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	350		mg/L		119	78 - 122

Lab Sample ID: 400-162396-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	88		88.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-421838/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			12/04/18 09:25	1

Lab Sample ID: LCS 400-421838/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	32.4		mg/L		108	90 - 110

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

Lab Sample ID: MRL 400-421838/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			2.00	1.69	I	mg/L		84	50 - 150		

Lab Sample ID: 400-162396-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13		10.0	23.5		mg/L		107	73 - 120		

Lab Sample ID: 400-162396-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		10.0	23.2		mg/L		105	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-421180/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 14:20	1

Lab Sample ID: LCS 400-421180/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.90		mg/L		98	90 - 110		

Lab Sample ID: 400-162396-A-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125		

Lab Sample ID: 400-162396-A-9 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125	0	4

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-162396-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-421795/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			12/03/18 09:16	1

Lab Sample ID: LCS 400-421795/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

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 400-421795/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.12	I	mg/L		82	50 - 150		

Lab Sample ID: 400-162568-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	1.4	U	10.0	8.07		mg/L		81	77 - 128		

Lab Sample ID: 400-162568-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.4	U	10.0	8.74	J3	mg/L		87	77 - 128	8	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

Client Contact: Kristi Mitchell
Company: Gulf Power Company
Address: BIN 731 One Energy Place
City: Pensacola
State, Zip: FL, 32520
Phone: 850-444-6427(Tel)
Email: krmitche@southernco.com
Project Name: CCR Smith Plant
Site:

Sampler: Matt Sutles
Phone: 850 344K
Due Date Requested:
TAT Requested (days):
PO #: Purchase Order not required
WO #:
Project #: 40006609
SSOW#:

Lab PM: Whitmire, Cheyenne R
E-Mail: cheyenne.whitmire@testamericainc.com
Carrier Tracking No(s):
COC No: 400-53432-23565.1
Page: Page 1 of 1
Job #: 162396

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, 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, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-11	11/20/18	1146	G	Water			X	X	X	X		
				Water								

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:

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

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	11/20/18 1540	RDH	[signature]	11.20.18 1540	TA
			Received by: 11/20/18		

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

Cooler Temperature(s) °C and Other Remarks: 1.5°C IR1 0.0°C 0.0°C

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-3
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-3
SDG: Ashpond

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	12-31-19
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

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: 400-162396-4
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/28/2018 2:03:52 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
Chronicle 8
QC Association 9
QC Sample Results 10
Chain of Custody 12
Receipt Checklists 13
Certification Summary 15

Case Narrative

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

Job ID: 400-162396-4

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-4

RAD
Method(s) PrecSep_0: Radium 228 Prep Bach 403456: The following samples were reduced due to potential matrix interference: MW-11 (400-162396-12). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method(s) PrecSep-21: Radium 226 Prep Bach 403442: The following samples were reduced due to potential matrix interference: MW-11 (400-162396-12). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-12	MW-11	Water	11/20/18 11:46	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

Client Sample ID: MW-11

Date Collected: 11/20/18 11:46
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-12

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	21.2		0.926	2.12	1.00	0.129	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	7.37		0.725	0.993	1.00	0.529	pCi/L	11/29/18 16:50	12/11/18 12:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*1*
Y Carrier	*80.7*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:00*	*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	28.6		1.18	2.34	5.00	0.529	pCi/L		12/27/18 15:10	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

Client Sample ID: MW-11

Date Collected: 11/20/18 11:46
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 07:43	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

Rad

Prep Batch: 403442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	PrecSep-21	
MB 160-403442/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-403442/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
190-18211-K-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 403456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-12	MW-11	Total/NA	Water	PrecSep_0	
MB 160-403456/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-403456/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
190-18211-K-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-403442/23-A
Matrix: Water
Analysis Batch: 406936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403442

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04330	U	0.0728	0.0729	1.00	0.128	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Lab Sample ID: LCS 160-403442/1-A
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403442

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.52		1.40	1.00	0.105	pCi/L	89	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*

Lab Sample ID: 190-18211-K-1-A DU
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403442

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	-0.0210	U		0.02970	U	0.0462	1.00	0.0801	pCi/L			0.76	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-403456/23-A
Matrix: Water
Analysis Batch: 404941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403456

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3483	U	0.296	0.298	1.00	0.472	pCi/L	11/29/18 16:50	12/11/18 12:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*
Y Carrier	*80.4*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*

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

Lab Sample ID: LCS 160-403456/1-A
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403456

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	11.44		1.34	1.00	0.504	pCi/L	94	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Lab Sample ID: 190-18211-K-1-B DU
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403456

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.112	U		0.05438	U	0.209	1.00	0.366	pCi/L			0.14	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*
Y Carrier	*84.1*		*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

Client Contact: Kristi Mitchell
Company: Gulf Power Company
Address: BIN 731 One Energy Place
City: Pensacola
State, Zip: FL, 32520
Phone: 850-444-6427(Tel)
Email: krmitche@southernco.com
Project Name: CCR Smith Plant
Site:

Sampler: Matt Sutles
Phone: 850 344K
Due Date Requested:
TAT Requested (days):
PO #: Purchase Order not required
WO #:
Project #: 40006609
SSOW#:

Lab PM: Whitmire, Cheyenne R
E-Mail: cheyenne.whitmire@testamericainc.com
Carrier Tracking No(s):
COC No: 400-53432-23565.1
Page: Page 1 of 1
Job #: 162396

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, 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, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-11	11/20/18	1146	G	Water			X	X	X	X		
				Water								

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:

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

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	11/20/18 1540	RDH	[signature]	11.20.18 1540	TA
			Received by: 11/20/18		

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

Cooler Temperature(s) °C and Other Remarks: 0.0 1.5 2 IR1 0.0 2 0.0 2

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-4
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company

Job Number: 400-162396-4
SDG Number: Ashpond

Login Number: 162396
List Number: 2
Creator: Dupart, Lacee S

List Source: TestAmerica St. Louis
List Creation: 11/27/18 02:25 PM

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	19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

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	12-31-19
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA017	12-31-19
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	12-31-19
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	12-08-19
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-4
SDG: Ashpond

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-162396-7
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/14/2018 4:40:38 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 400-162396-7

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-7

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-162396-14). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-162396-14). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample the MS/MSD were diluted after the spike. The spike amounts were adjusted by the dilution factor. (400-162459-A-1 MS) and (400-162459-A-1 MSD)

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 421795 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-13 (400-162396-14), (400-162459-A-1), (400-162459-A-1 MS) and (400-162459-A-1 MSD). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Client Sample ID: MW-13 — Lab Sample ID: 400-162396-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0016		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.079		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Molybdenum	0.020		0.015	0.0020	mg/L	5		6020	Total Recoverable
Boron - DL	16		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	550		10	5.0	mg/L	200		6020	Total Recoverable
Lithium - RA	0.26		0.050	0.011	mg/L	50		6020	Total Recoverable
Total Dissolved Solids	8600		250	170	mg/L	1		SM 2540C	Total/NA
Chloride	4500		200	140	mg/L	100		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	810		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.99				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-14	MW-13	Water	11/19/18 14:25	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Client Sample ID: MW-13

Date Collected: 11/19/18 14:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-14

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0016**		0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 18:02	5
Barium	**0.079**		0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 18:02	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 18:02	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 18:02	5
Molybdenum	**0.020**		0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 18:02	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 18:02	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**16**		2.0	0.84	mg/L		11/30/18 10:45	12/04/18 16:35	200
Calcium	**550**		10	5.0	mg/L		11/30/18 10:45	12/04/18 16:35	200

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	12/04/18 18:08	5
Lithium	**0.26**		0.050	0.011	mg/L		11/30/18 10:45	12/07/18 20:28	50

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8600**		250	170	mg/L			11/26/18 10:09	1
Chloride	**4500**		200	140	mg/L			12/04/18 10:21	100
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			11/28/18 14:55	1
Sulfate	**810**		150	42	mg/L			12/03/18 10:00	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.99**				SU			11/19/18 14:25	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Client Sample ID: MW-13

Date Collected: 11/19/18 14:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 18:02	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	200	422045	12/04/18 16:35	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	422045	12/04/18 18:08	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	50	422591	12/07/18 20:28	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		100	421838	12/04/18 10:21	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421180	11/28/18 14:55	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	421795	12/03/18 10:00	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 14:25	CDH	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Metals

Prep Batch: 421465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total Recoverable	Water	3005A	
400-162396-14 - RA	MW-13	Total Recoverable	Water	3005A	
400-162396-14 - DL	MW-13	Total Recoverable	Water	3005A	
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 421723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total Recoverable	Water	6020	421465
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	6020	421465
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	6020	421465
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	421465
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	421465

Analysis Batch: 422045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14 - DL	MW-13	Total Recoverable	Water	6020	421465
400-162396-14 - RA	MW-13	Total Recoverable	Water	6020	421465

Analysis Batch: 422591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14 - RA	MW-13	Total Recoverable	Water	6020	421465

General Chemistry

Analysis Batch: 420775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	SM 2540C	
MB 400-420775/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-420775/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-162396-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 421180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	SM 4500 F C	
MB 400-421180/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-421180/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-162396-A-9 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-162396-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-162396-A-17 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 421795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	SM 4500 SO4 E	
MB 400-421795/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-421795/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-421795/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-162459-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 421795 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162459-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 421838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	SM 4500 Cl- E	
MB 400-421838/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-421838/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-421838/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-162396-A-2 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-162396-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Field Service / Mobile Lab

Analysis Batch: 421915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-421465/1-A ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 15:42	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 15:42	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 15:42	5
Boron	0.021	U	0.050	0.021	mg/L		11/30/18 10:45	11/30/18 15:42	5
Calcium	0.13	U	0.25	0.13	mg/L		11/30/18 10:45	11/30/18 15:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 15:42	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 15:42	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 15:42	5

Lab Sample ID: LCS 400-421465/2-A
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0495		mg/L		99	80 - 120
Barium	0.0500	0.0483		mg/L		97	80 - 120
Beryllium	0.0500	0.0560		mg/L		112	80 - 120
Boron	0.100	0.106		mg/L		106	80 - 120
Calcium	5.00	4.89		mg/L		98	80 - 120
Chromium	0.0500	0.0498		mg/L		100	80 - 120
Cobalt	0.0500	0.0518		mg/L		104	80 - 120
Lithium	0.0500	0.0548		mg/L		110	80 - 120
Molybdenum	0.0500	0.0477		mg/L		95	80 - 120
Selenium	0.0500	0.0492		mg/L		98	80 - 120

Lab Sample ID: 400-162402-C-9-B MS ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.023		0.0500	0.0745		mg/L		102	75 - 125
Barium	0.0014	I	0.0500	0.0512		mg/L		100	75 - 125
Beryllium	0.00034	U	0.0500	0.0504		mg/L		101	75 - 125
Boron	0.030	I	0.100	0.135		mg/L		104	75 - 125
Calcium	6.0		5.00	10.9		mg/L		99	75 - 125
Chromium	0.0011	U	0.0500	0.0509		mg/L		102	75 - 125
Cobalt	0.00040	U	0.0500	0.0530		mg/L		106	75 - 125
Lithium	0.0011	U	0.0500	0.0510		mg/L		102	75 - 125
Molybdenum	0.0046	I	0.0500	0.0544		mg/L		99	75 - 125
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125

Lab Sample ID: 400-162402-C-9-C MSD ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.023		0.0500	0.0753		mg/L		104	75 - 125	1	20

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

Lab Sample ID: 400-162402-C-9-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 421723 — **Prep Batch: 421465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.0014	I	0.0500	0.0516		mg/L		100	75 - 125	1	20
Beryllium	0.00034	U	0.0500	0.0506		mg/L		101	75 - 125	0	20
Boron	0.030	I	0.100	0.131		mg/L		101	75 - 125	3	20
Calcium	6.0		5.00	11.0		mg/L		100	75 - 125	1	20
Chromium	0.0011	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Cobalt	0.00040	U	0.0500	0.0536		mg/L		107	75 - 125	1	20
Lithium	0.0011	U	0.0500	0.0516		mg/L		103	75 - 125	1	20
Molybdenum	0.0046	I	0.0500	0.0542		mg/L		99	75 - 125	0	20
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125	0	20

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

Lab Sample ID: MB 400-420775/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/26/18 10:09	1

Lab Sample ID: LCS 400-420775/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	350		mg/L		119	78 - 122

Lab Sample ID: 400-162396-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	88		88.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-421838/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			12/04/18 09:25	1

Lab Sample ID: LCS 400-421838/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	32.4		mg/L		108	90 - 110

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

Lab Sample ID: MRL 400-421838/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			2.00	1.69	I	mg/L		84	50 - 150		

Lab Sample ID: 400-162396-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13		10.0	23.5		mg/L		107	73 - 120		

Lab Sample ID: 400-162396-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		10.0	23.2		mg/L		105	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-421180/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 14:20	1

Lab Sample ID: LCS 400-421180/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.90		mg/L		98	90 - 110		

Lab Sample ID: 400-162396-A-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125		

Lab Sample ID: 400-162396-A-9 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125	0	4

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-162396-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-421795/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			12/03/18 09:16	1

Lab Sample ID: LCS 400-421795/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

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 400-421795/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.12	I	mg/L		82	50 - 150		

Lab Sample ID: 400-162459-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	720		9.90	696	J3	mg/L		-277	77 - 128		

Lab Sample ID: 400-162459-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	720		9.90	688	J3	mg/L		-355	77 - 128	1	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: Brett Sparks	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-53432-23565.1
Client Contact: Kristi Mitchell	Phone: 380 7458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Gulf Power Company				Job #: 162396
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site:	SSOW#:			

Analysis Requested

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, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-13	11/19/18	1425	G	Water			X	X	X	X		
				Water								

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
	11/20/18 1540	RDM		11-20-18 1540	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-7
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-7
SDG: Ashpond

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	12-31-19
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

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: 400-162396-8
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/28/2018 2:04:57 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
Chronicle 8
QC Association 9
QC Sample Results 10
Chain of Custody 12
Receipt Checklists 13
Certification Summary 15

Job ID: 400-162396-8

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-8

RAD
Method(s) PrecSep_0: Radium 228 Prep Bach 403456: The following samples were reduced due to potential matrix interference: MW-13 (400-162396-14). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method(s) PrecSep-21: Radium 226 Prep Bach 403442: The following samples were reduced due to potential matrix interference: MW-13 (400-162396-14). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-14	MW-13	Water	11/19/18 14:25	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

Client Sample ID: MW-13

Date Collected: 11/19/18 14:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-14

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	6.12		0.499	0.743	1.00	0.131	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.49		0.617	0.797	1.00	0.522	pCi/L	11/29/18 16:50	12/11/18 12:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:01*	*1*
Y Carrier	*79.6*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:01*	*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	11.6		0.794	1.09	5.00	0.522	pCi/L		12/27/18 15:10	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

Client Sample ID: MW-13

Date Collected: 11/19/18 14:25
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 07:43	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

Rad

Prep Batch: 403442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	PrecSep-21	
MB 160-403442/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-403442/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
190-18211-K-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 403456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-14	MW-13	Total/NA	Water	PrecSep_0	
MB 160-403456/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-403456/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
190-18211-K-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-403442/23-A
Matrix: Water
Analysis Batch: 406936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403442

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04330	U	0.0728	0.0729	1.00	0.128	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Lab Sample ID: LCS 160-403442/1-A
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403442

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.52		1.40	1.00	0.105	pCi/L	89	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*

Lab Sample ID: 190-18211-K-1-A DU
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403442

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	-0.0210	U		0.02970	U	0.0462	1.00	0.0801	pCi/L			0.76	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-403456/23-A
Matrix: Water
Analysis Batch: 404941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403456

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3483	U	0.296	0.298	1.00	0.472	pCi/L	11/29/18 16:50	12/11/18 12:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*
Y Carrier	*80.4*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*

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

Lab Sample ID: LCS 160-403456/1-A
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403456

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	11.44		1.34	1.00	0.504	pCi/L	94	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Lab Sample ID: 190-18211-K-1-B DU
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403456

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.112	U		0.05438	U	0.209	1.00	0.366	pCi/L			0.14	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*
Y Carrier	*84.1*		*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: Brett Sparks	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-53432-23565.1
Client Contact: Kristi Mitchell	Phone: 380 7458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 1
Company: Gulf Power Company				Job #: 162396
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site:	SSOW#:			

Analysis Requested

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, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-13	11/19/18	1425	G	Water			X	X	X	X		
				Water								

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
	11/20/18 1540	RDM		11-20-18 1540	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-8
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company

Job Number: 400-162396-8
SDG Number: Ashpond

Login Number: 162396
List Number: 2
Creator: Dupart, Lacee S

List Source: TestAmerica St. Louis
List Creation: 11/27/18 02:25 PM

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	19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

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	12-31-19
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA017	12-31-19
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	12-31-19
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	12-08-19
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-8
SDG: Ashpond

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-162396-11
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/14/2018 4:38:41 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
Chronicle 9
QC Association 10
QC Sample Results 12
Chain of Custody 16
Receipt Checklists 17
Certification Summary 18

Job ID: 400-162396-11

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-11

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-162396-16). Elevated reporting limits (RLs) are provided.

General Chemistry
Method(s) SM 4500 Cl- E: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-162396-16). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample the MS/MSD were diluted after the spike. The spike amounts were adjusted by the dilution factor. (400-162459-A-1 MS) and (400-162459-A-1 MSD)

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 421795 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-14 (400-162396-16), (400-162459-A-1), (400-162459-A-1 MS) and (400-162459-A-1 MSD). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Client Sample ID: MW-14 — Lab Sample ID: 400-162396-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0058		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.057		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Molybdenum	0.013	I	0.015	0.0020	mg/L	5		6020	Total Recoverable
Boron - DL	15		2.0	0.84	mg/L	200		6020	Total Recoverable
Calcium - DL	290		10	5.0	mg/L	200		6020	Total Recoverable
Total Dissolved Solids	4900		50	34	mg/L	1		SM 2540C	Total/NA
Chloride	2400		160	110	mg/L	80		SM 4500 Cl- E	Total/NA
Fluoride	0.080	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	720		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	6.86				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-16	MW-14	Water	11/19/18 14:40	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Client Sample ID: MW-14

Date Collected: 11/19/18 14:40
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-16

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0058**		0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 18:16	5
Barium	**0.057**		0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 18:16	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 18:16	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 18:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 18:16	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 18:16	5
Molybdenum	**0.013**	**I**	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 18:16	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 18:16	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**15**		2.0	0.84	mg/L		11/30/18 10:45	12/04/18 17:00	200
Calcium	**290**		10	5.0	mg/L		11/30/18 10:45	12/04/18 17:00	200

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4900**		50	34	mg/L			11/26/18 10:09	1
Chloride	**2400**		160	110	mg/L			12/04/18 09:58	80
Fluoride	**0.080**	**I**	0.10	0.032	mg/L			11/28/18 14:59	1
Sulfate	**720**		150	42	mg/L			12/03/18 11:16	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.86**				SU			11/19/18 14:40	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Client Sample ID: MW-14

Date Collected: 11/19/18 14:40
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	421723	11/30/18 18:16	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		421465	11/30/18 10:45	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	200	422045	12/04/18 17:00	DRE	TAL PEN
Total/NA	Analysis	SM 2540C		1	420775	11/26/18 10:09	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		80	421838	12/04/18 09:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	421180	11/28/18 14:59	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	421795	12/03/18 11:16	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	421915	11/19/18 14:40	CDH	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Metals

Prep Batch: 421465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16 - DL	MW-14	Total Recoverable	Water	3005A	
400-162396-16	MW-14	Total Recoverable	Water	3005A	
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 421723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total Recoverable	Water	6020	421465
MB 400-421465/1-A ^5	Method Blank	Total Recoverable	Water	6020	421465
LCS 400-421465/2-A	Lab Control Sample	Total Recoverable	Water	6020	421465
400-162402-C-9-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	421465
400-162402-C-9-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	421465

Analysis Batch: 422045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16 - DL	MW-14	Total Recoverable	Water	6020	421465

General Chemistry

Analysis Batch: 420775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	SM 2540C	
MB 400-420775/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-420775/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-162396-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 421180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	SM 4500 F C	
MB 400-421180/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-421180/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-162396-A-9 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-162396-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-162396-A-17 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 421795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	SM 4500 SO4 E	
MB 400-421795/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-421795/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-421795/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-162459-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-162459-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 421838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	SM 4500 Cl- E	
MB 400-421838/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 421838 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-421838/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-421838/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-162396-A-2 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-162396-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Field Service / Mobile Lab

Analysis Batch: 421915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	Field Sampling	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-421465/1-A ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		11/30/18 10:45	11/30/18 15:42	5
Barium	0.00049	U	0.0025	0.00049	mg/L		11/30/18 10:45	11/30/18 15:42	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		11/30/18 10:45	11/30/18 15:42	5
Boron	0.021	U	0.050	0.021	mg/L		11/30/18 10:45	11/30/18 15:42	5
Calcium	0.13	U	0.25	0.13	mg/L		11/30/18 10:45	11/30/18 15:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		11/30/18 10:45	11/30/18 15:42	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		11/30/18 10:45	11/30/18 15:42	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		11/30/18 10:45	11/30/18 15:42	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		11/30/18 10:45	11/30/18 15:42	5

Lab Sample ID: LCS 400-421465/2-A
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0495		mg/L		99	80 - 120
Barium	0.0500	0.0483		mg/L		97	80 - 120
Beryllium	0.0500	0.0560		mg/L		112	80 - 120
Boron	0.100	0.106		mg/L		106	80 - 120
Calcium	5.00	4.89		mg/L		98	80 - 120
Chromium	0.0500	0.0498		mg/L		100	80 - 120
Cobalt	0.0500	0.0518		mg/L		104	80 - 120
Lithium	0.0500	0.0548		mg/L		110	80 - 120
Molybdenum	0.0500	0.0477		mg/L		95	80 - 120
Selenium	0.0500	0.0492		mg/L		98	80 - 120

Lab Sample ID: 400-162402-C-9-B MS ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.023		0.0500	0.0745		mg/L		102	75 - 125
Barium	0.0014	I	0.0500	0.0512		mg/L		100	75 - 125
Beryllium	0.00034	U	0.0500	0.0504		mg/L		101	75 - 125
Boron	0.030	I	0.100	0.135		mg/L		104	75 - 125
Calcium	6.0		5.00	10.9		mg/L		99	75 - 125
Chromium	0.0011	U	0.0500	0.0509		mg/L		102	75 - 125
Cobalt	0.00040	U	0.0500	0.0530		mg/L		106	75 - 125
Lithium	0.0011	U	0.0500	0.0510		mg/L		102	75 - 125
Molybdenum	0.0046	I	0.0500	0.0544		mg/L		99	75 - 125
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125

Lab Sample ID: 400-162402-C-9-C MSD ^5
Matrix: Water
Analysis Batch: 421723

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 421465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.023		0.0500	0.0753		mg/L		104	75 - 125	1	20

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

Lab Sample ID: 400-162402-C-9-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 421723 — **Prep Batch: 421465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.0014	I	0.0500	0.0516		mg/L		100	75 - 125	1	20
Beryllium	0.00034	U	0.0500	0.0506		mg/L		101	75 - 125	0	20
Boron	0.030	I	0.100	0.131		mg/L		101	75 - 125	3	20
Calcium	6.0		5.00	11.0		mg/L		100	75 - 125	1	20
Chromium	0.0011	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Cobalt	0.00040	U	0.0500	0.0536		mg/L		107	75 - 125	1	20
Lithium	0.0011	U	0.0500	0.0516		mg/L		103	75 - 125	1	20
Molybdenum	0.0046	I	0.0500	0.0542		mg/L		99	75 - 125	0	20
Selenium	0.0033		0.0500	0.0509		mg/L		95	75 - 125	0	20

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

Lab Sample ID: MB 400-420775/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			11/26/18 10:09	1

Lab Sample ID: LCS 400-420775/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	350		mg/L		119	78 - 122

Lab Sample ID: 400-162396-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 420775

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	88		88.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-421838/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			12/04/18 09:25	1

Lab Sample ID: LCS 400-421838/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	32.4		mg/L		108	90 - 110

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

Lab Sample ID: MRL 400-421838/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			2.00	1.69	I	mg/L		84	50 - 150		

Lab Sample ID: 400-162396-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13		10.0	23.5		mg/L		107	73 - 120		

Lab Sample ID: 400-162396-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421838

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13		10.0	23.2		mg/L		105	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-421180/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			11/28/18 14:20	1

Lab Sample ID: LCS 400-421180/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.90		mg/L		98	90 - 110		

Lab Sample ID: 400-162396-A-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125		

Lab Sample ID: 400-162396-A-9 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.13		1.00	1.10		mg/L		97	75 - 125	0	4

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-162396-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421180

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

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-421795/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			12/03/18 09:16	1

Lab Sample ID: LCS 400-421795/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

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 400-421795/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.12	I	mg/L		82	50 - 150		

Lab Sample ID: 400-162459-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	720		9.90	696	J3	mg/L		-277	77 - 128		

Lab Sample ID: 400-162459-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 421795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	720		9.90	688	J3	mg/L		-355	77 - 128	1	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: Beth Sykes	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-53432-23565.1
Client Contact: Kristi Mitchell	Phone: 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 2
Company: Gulf Power Company				Job #: 162394
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site:	SSOW#:			

Analysis Requested

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, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	X	
MW-14	11/19/18	1440	G	Water			X	X	X	X		
				Water								

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:

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
	11/20/18 1540	RDH		11-20-18 1540	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-11
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-11
SDG: Ashpond

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	12-31-19
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

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: 400-162396-12
TestAmerica Sample Delivery Group: Ashpond
Client Project/Site: CCR Smith Plant

For:
Gulf Power Company
BIN 731
One Energy Place
Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
12/28/2018 2:05:57 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
Chronicle 8
QC Association 9
QC Sample Results 10
Chain of Custody 12
Receipt Checklists 13
Certification Summary 15

Job ID: 400-162396-12

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-162396-12

RAD
Method(s) PrecSep_0: Radium 228 Prep Bach 403456: The following samples were reduced due to potential matrix interference: MW-14 (400-162396-16). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method(s) PrecSep-21: Radium 226 Prep Bach 403442: The following samples were reduced due to potential matrix interference: MW-14 (400-162396-16). The samples had yellow discoloration, sediment, and a strong sulfur odor. Sample 310-144991-1 was reduced due to limited sample volume.

Method Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-162396-16	MW-14	Water	11/19/18 14:40	11/20/18 15:40

Client Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

Client Sample ID: MW-14

Date Collected: 11/19/18 14:40
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-16

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	2.51		0.323	0.394	1.00	0.122	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.08		0.480	0.557	1.00	0.431	pCi/L	11/29/18 16:50	12/11/18 12:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:01*	*1*
Y Carrier	*82.2*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:01*	*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	5.59		0.579	0.682	5.00	0.431	pCi/L		12/27/18 15:10	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

Client Sample ID: MW-14

Date Collected: 11/19/18 14:40
Date Received: 11/20/18 15:40

Lab Sample ID: 400-162396-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			403442	11/29/18 15:08	CLP	TAL SL
Total/NA	Analysis	9315		1	406936	12/21/18 07:43	CDR	TAL SL
Total/NA	Prep	PrecSep_0			403456	11/29/18 16:50	CLP	TAL SL
Total/NA	Analysis	9320		1	404943	12/11/18 12:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	407737	12/27/18 15:10	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

Rad

Prep Batch: 403442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	PrecSep-21	
MB 160-403442/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-403442/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
190-18211-K-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 403456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-162396-16	MW-14	Total/NA	Water	PrecSep_0	
MB 160-403456/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-403456/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
190-18211-K-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-403442/23-A
Matrix: Water
Analysis Batch: 406936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403442

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04330	U	0.0728	0.0729	1.00	0.128	pCi/L	11/29/18 15:08	12/21/18 07:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 15:08*	*12/21/18 07:43*	*1*

Lab Sample ID: LCS 160-403442/1-A
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403442

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.52		1.40	1.00	0.105	pCi/L	89	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*

Lab Sample ID: 190-18211-K-1-A DU
Matrix: Water
Analysis Batch: 406937

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403442

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	-0.0210	U		0.02970	U	0.0462	1.00	0.0801	pCi/L			0.76	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-403456/23-A
Matrix: Water
Analysis Batch: 404941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 403456

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3483	U	0.296	0.298	1.00	0.472	pCi/L	11/29/18 16:50	12/11/18 12:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*
Y Carrier	*80.4*		*40 - 110*	*11/29/18 16:50*	*12/11/18 12:02*	*1*

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

Lab Sample ID: LCS 160-403456/1-A
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 403456

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	11.44		1.34	1.00	0.504	pCi/L	94	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

Lab Sample ID: 190-18211-K-1-B DU
Matrix: Water
Analysis Batch: 404943

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 403456

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.112	U		0.05438	U	0.209	1.00	0.366	pCi/L			0.14	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.3*		*40 - 110*
Y Carrier	*84.1*		*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: Beth Sykes	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-53432-23565.1
Client Contact: Kristi Mitchell	Phone: 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of ~~2~~ 1
Company: Gulf Power Company				Job #: 162396
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: CCR Smith Plant	Project #: 40006609			
Site:	SSOW#:			

Analysis Requested

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, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - As,Ba,B,Be,Ca,Cr,Co,Li,Mo,Se	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N	X	
MW-14	11/19/18	1440	G	Water			X	X	X	X		
				Water								

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:

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
	11/20/18 1540	RDH		11-20-18 1540	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-162396-12
SDG Number: Ashpond

Login Number: 162396
List Number: 1
Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C, 0.0°C, 1.5°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: Gulf Power Company

Job Number: 400-162396-12
SDG Number: Ashpond

Login Number: 162396
List Number: 2
Creator: Dupart, Lacee S

List Source: TestAmerica St. Louis
List Creation: 11/27/18 02:25 PM

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	19.0
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

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	12-31-19
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA017	12-31-19
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	12-31-19
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	12-08-19
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: Gulf Power Company
Project/Site: CCR Smith Plant

TestAmerica Job ID: 400-162396-12
SDG: Ashpond

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

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

APPENDIX B

Statistical Analyses

JUNE 2018 STATISTICAL ANALYSIS – ASSESSMENT MONITORING STATISTICS

Confidence Intervals - Significant Results

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	**MW-11**	**0.03023**	**0.02097**	**0.01**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-6**	**35.51**	**23.33**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-7**	**27**	**21.84**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-8**	**44.09**	**35.33**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-9**	**30.69**	**17.79**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-10**	**27.01**	**20.43**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-11**	**33.51**	**23.61**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-13**	**18.11**	**11.44**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-14**	**10.12**	**6.209**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-13**	**0.2332**	**0.1725**	**0.04**	**Yes**	**10**	**0**	**sqrt(x)**	**0.01**	**Param.**

Confidence Intervals - All Results

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-2 (bg)	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-3 (bg)	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-6	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-7	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-8	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-9	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-10	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-11	0.0025	0.0013	0.006	No	9	55.56	No	0.002	NP (normality)
Antimony (mg/L)	MW-12 (bg)	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-13	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MW-14	0.0025	0.0025	0.006	No	9	100	No	0.002	NP (NDs)
Arsenic (mg/L)	MW-2 (bg)	0.0013	0.0013	0.01	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-3 (bg)	0.0013	0.00085	0.01	No	10	90	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-6	0.001357	0.000621	0.01	No	10	30	No	0.01	Param.
Arsenic (mg/L)	MW-7	0.001865	0.001013	0.01	No	10	30	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MW-8	0.0017	0.00097	0.01	No	10	30	No	0.011	NP (normality)
Arsenic (mg/L)	MW-9	0.003059	0.001881	0.01	No	10	10	No	0.01	Param.
Arsenic (mg/L)	MW-10	0.00347	0.00197	0.01	No	10	10	No	0.01	Param.
Arsenic (mg/L)	**MW-11**	**0.03023**	**0.02097**	**0.01**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	MW-12 (bg)	0.0013	0.0013	0.01	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-13	0.001974	0.0004964	0.01	No	10	20	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MW-14	0.004316	0.002384	0.01	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-2 (bg)	0.02902	0.01958	2	No	10	10	No	0.01	Param.
Barium (mg/L)	MW-3 (bg)	0.022	0.016	2	No	10	10	No	0.011	NP (normality)
Barium (mg/L)	MW-6	0.07542	0.05509	2	No	10	10	x^2	0.01	Param.
Barium (mg/L)	MW-7	0.0687	0.05112	2	No	10	10	x^2	0.01	Param.
Barium (mg/L)	MW-8	0.07612	0.05405	2	No	10	10	x^2	0.01	Param.
Barium (mg/L)	MW-9	0.1114	0.06737	2	No	10	10	No	0.01	Param.
Barium (mg/L)	MW-10	0.1226	0.1054	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-11	0.1324	0.07262	2	No	10	10	No	0.01	Param.
Barium (mg/L)	MW-12 (bg)	0.017	0.012	2	No	10	10	No	0.011	NP (normality)
Barium (mg/L)	MW-13	0.1484	0.103	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-14	0.06067	0.04544	2	No	10	10	x^2	0.01	Param.
Beryllium (mg/L)	MW-2 (bg)	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-3 (bg)	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-6	0.002008	0.0008904	0.004	No	10	10	No	0.01	Param.
Beryllium (mg/L)	MW-7	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-8	0.0015	0.0012	0.004	No	10	10	No	0.011	NP (normality)
Beryllium (mg/L)	MW-9	0.0025	0.00039	0.004	No	10	50	No	0.011	NP (normality)
Beryllium (mg/L)	MW-10	0.00061	0.00033	0.004	No	10	10	No	0.011	NP (normality)
Beryllium (mg/L)	MW-11	0.0025	0.00078	0.004	No	10	60	No	0.011	NP (normality)
Beryllium (mg/L)	MW-12 (bg)	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-13	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-14	0.0025	0.0025	0.004	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-2 (bg)	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-3 (bg)	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-6	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-7	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-8	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-9	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-10	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-11	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-12 (bg)	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-13	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Cadmium (mg/L)	MW-14	0.0025	0.0025	0.005	No	9	100	No	0.002	NP (NDs)
Chromium (mg/L)	MW-2 (bg)	0.003804	0.001487	0.1	No	10	30	sqrt(x)	0.01	Param.
Chromium (mg/L)	MW-3 (bg)	0.0049	0.0021	0.1	No	10	20	No	0.011	NP (normality)
Chromium (mg/L)	MW-6	0.0025	0.0025	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-7	0.0025	0.0011	0.1	No	10	60	No	0.011	NP (normality)
Chromium (mg/L)	MW-8	0.0025	0.0025	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-9	0.0025	0.0025	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-10	0.0025	0.0015	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MW-11	0.0087	0.0025	0.1	No	10	20	No	0.011	NP (normality)
Chromium (mg/L)	MW-12 (bg)	0.0025	0.0025	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MW-13	0.0025	0.0024	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MW-14	0.0025	0.0012	0.1	No	10	80	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-2 (bg)	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-3 (bg)	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)

Confidence Intervals - All Results

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Cobalt (mg/L)	MW-6	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-7	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-8	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-9	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-10	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-11	0.0025	0.00046	0.006	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-12 (bg)	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-13	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-14	0.0025	0.0025	0.006	No	10	100	No	0.011	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-2 (bg)	3.187	1.363	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-3 (bg)	1.857	1.301	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	**MW-6**	**35.51**	**23.33**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-7**	**27**	**21.84**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-8**	**44.09**	**35.33**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-9**	**30.69**	**17.79**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-10**	**27.01**	**20.43**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-11**	**33.51**	**23.61**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	MW-12 (bg)	3.127	1.956	5	No	10	0	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	**MW-13**	**18.11**	**11.44**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-14**	**10.12**	**6.209**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-2 (bg)	0.2442	0.09765	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MW-3 (bg)	0.1	0.04	4	No	11	72.73	No	0.006	NP (normality)
Fluoride (mg/L)	MW-6	0.1	0.04	4	No	11	27.27	No	0.006	NP (normality)
Fluoride (mg/L)	MW-7	0.1	0.04	4	No	11	63.64	No	0.006	NP (normality)
Fluoride (mg/L)	MW-8	0.1	0.1	4	No	11	100	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-9	0.1	0.04	4	No	11	27.27	No	0.006	NP (normality)
Fluoride (mg/L)	MW-10	0.1	0.04	4	No	11	54.55	No	0.006	NP (normality)
Fluoride (mg/L)	MW-11	0.1	0.04	4	No	11	81.82	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-12 (bg)	0.1115	0.08484	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MW-13	0.1	0.04	4	No	11	9.091	No	0.006	NP (normality)
Fluoride (mg/L)	MW-14	0.07234	0.04117	4	No	11	9.091	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-2 (bg)	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-3 (bg)	0.0013	0.00039	0.015	No	9	77.78	No	0.002	NP (NDs)
Lead (mg/L)	MW-6	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-7	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-8	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-9	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-10	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-11	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-12 (bg)	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-13	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MW-14	0.0013	0.0013	0.015	No	9	100	No	0.002	NP (NDs)
Lithium (mg/L)	MW-2 (bg)	0.0087	0.0049	0.04	No	10	40	No	0.011	NP (normality)
Lithium (mg/L)	MW-3 (bg)	0.01418	0.008936	0.04	No	10	10	No	0.01	Param.
Lithium (mg/L)	MW-6	0.02184	0.008698	0.04	No	10	10	No	0.01	Param.
Lithium (mg/L)	MW-7	0.005	0.0018	0.04	No	10	80	No	0.011	NP (NDs)
Lithium (mg/L)	MW-8	0.009255	0.00702	0.04	No	10	20	No	0.01	Param.
Lithium (mg/L)	MW-9	0.009088	0.003848	0.04	No	10	10	x^(1/3)	0.01	Param.
Lithium (mg/L)	MW-10	0.006591	0.005021	0.04	No	10	20	No	0.01	Param.
Lithium (mg/L)	MW-11	0.005	0.0038	0.04	No	10	70	No	0.011	NP (normality)
Lithium (mg/L)	MW-12 (bg)	0.01622	0.007528	0.04	No	10	10	sqrt(x)	0.01	Param.
Lithium (mg/L)	**MW-13**	**0.2332**	**0.1725**	**0.04**	**Yes**	**10**	**0**	**sqrt(x)**	**0.01**	**Param.**
Lithium (mg/L)	MW-14	0.005	0.0013	0.04	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MW-2 (bg)	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-3 (bg)	0.0002	0.000071	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury (mg/L)	MW-6	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-7	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-8	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-9	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-10	0.0002	0.000089	0.002	No	9	88.89	No	0.002	NP (NDs)
Mercury (mg/L)	MW-11	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-12 (bg)	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-13	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Mercury (mg/L)	MW-14	0.0002	0.0002	0.002	No	9	100	No	0.002	NP (NDs)
Molybdenum (mg/L)	MW-2 (bg)	0.015	0.0009	0.1	No	10	80	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-3 (bg)	0.015	0.015	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-6	0.015	0.0011	0.1	No	10	90	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-7	0.007285	0.004971	0.1	No	10	30	ln(x)	0.01	Param.

Confidence Intervals - All Results

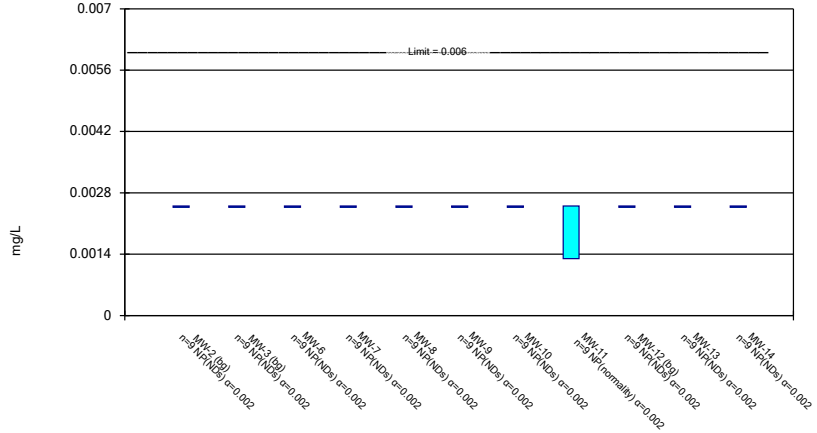
Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:08 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Molybdenum (mg/L)	MW-8	0.015	0.015	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-9	0.015	0.0014	0.1	No	10	70	No	0.011	NP (normality)
Molybdenum (mg/L)	MW-10	0.003005	0.00113	0.1	No	10	30	ln(x)	0.01	Param.
Molybdenum (mg/L)	MW-11	0.0163	0.0104	0.1	No	10	10	No	0.01	Param.
Molybdenum (mg/L)	MW-12 (bg)	0.015	0.015	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-13	0.03384	0.01152	0.1	No	10	10	No	0.01	Param.
Molybdenum (mg/L)	MW-14	0.01816	0.0129	0.1	No	10	0	No	0.01	Param.
Selenium (mg/L)	MW-2 (bg)	0.0013	0.00038	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MW-3 (bg)	0.0013	0.0003	0.05	No	10	80	No	0.011	NP (NDs)
Selenium (mg/L)	MW-6	0.0013	0.00025	0.05	No	10	60	No	0.011	NP (normality)
Selenium (mg/L)	MW-7	0.0013	0.00028	0.05	No	10	60	No	0.011	NP (normality)
Selenium (mg/L)	MW-8	0.0013	0.0003	0.05	No	10	60	No	0.011	NP (normality)
Selenium (mg/L)	MW-9	0.0013	0.00033	0.05	No	10	80	No	0.011	NP (NDs)
Selenium (mg/L)	MW-10	0.0013	0.00025	0.05	No	10	80	No	0.011	NP (NDs)
Selenium (mg/L)	MW-11	0.0013	0.00046	0.05	No	10	50	No	0.011	NP (normality)
Selenium (mg/L)	MW-12 (bg)	0.0013	0.0013	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MW-13	0.0013	0.00031	0.05	No	10	70	No	0.011	NP (normality)
Selenium (mg/L)	MW-14	0.0013	0.00024	0.05	No	10	80	No	0.011	NP (NDs)
Thallium (mg/L)	MW-2 (bg)	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-3 (bg)	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-6	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-7	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-8	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-9	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-10	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-11	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-12 (bg)	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-13	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)
Thallium (mg/L)	MW-14	0.0005	0.0005	0.002	No	9	100	No	0.002	NP (NDs)

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



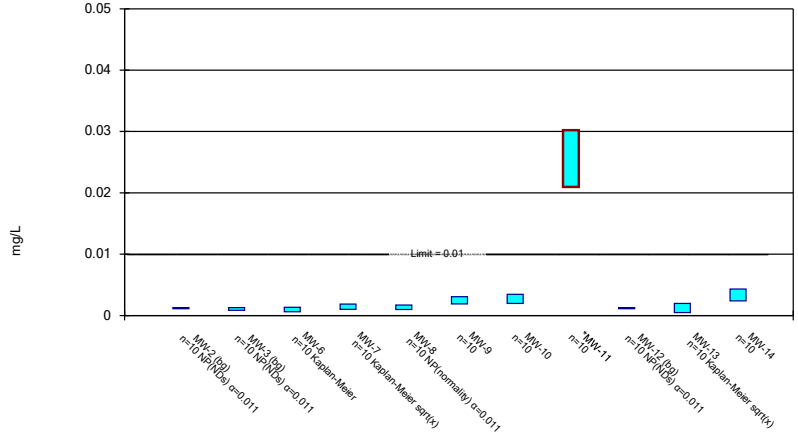
Constituent: Antimony Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



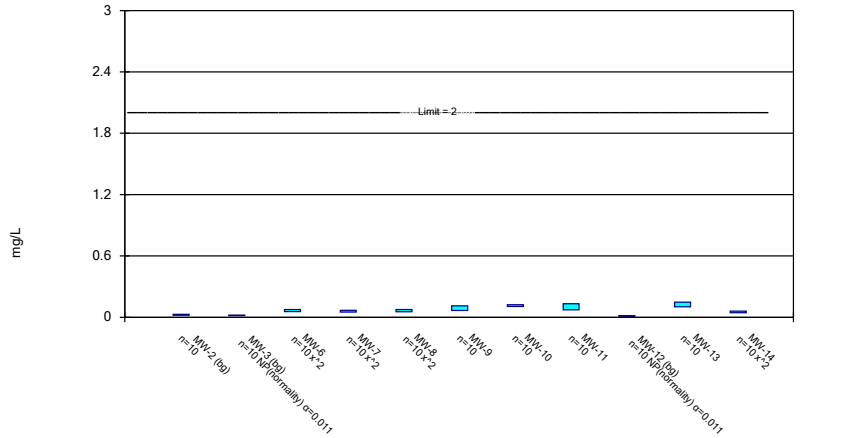
Constituent: Arsenic Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



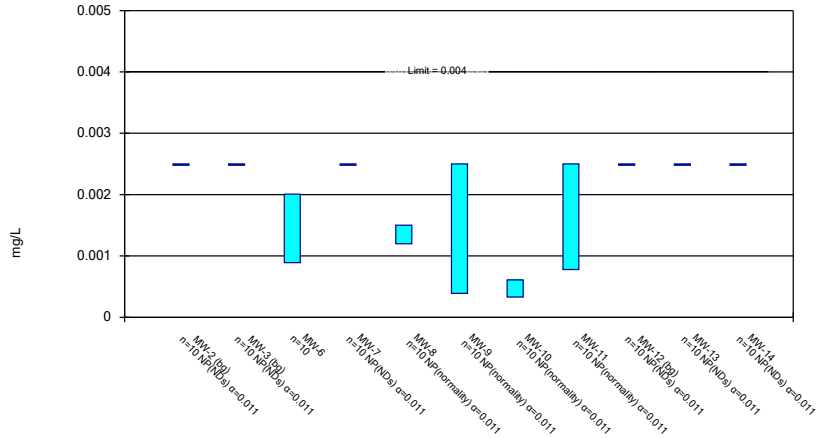
Constituent: Barium Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



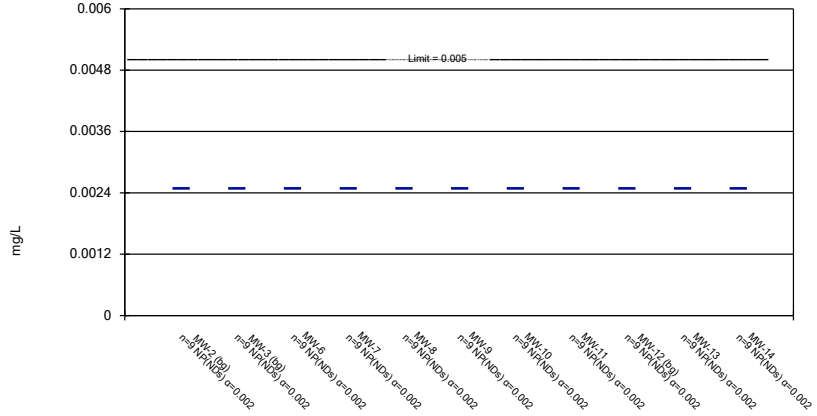
Constituent: Beryllium Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



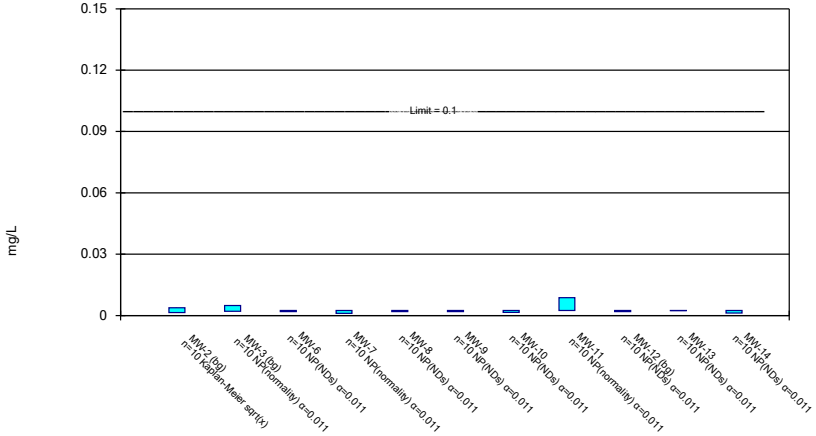
Constituent: Cadmium Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

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.



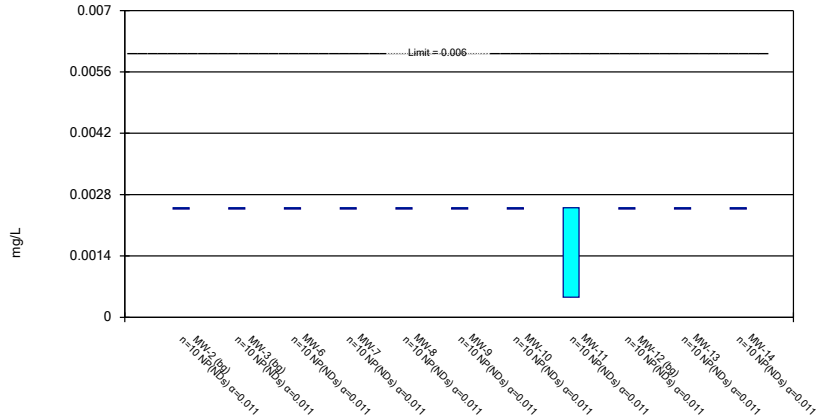
Constituent: Chromium Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



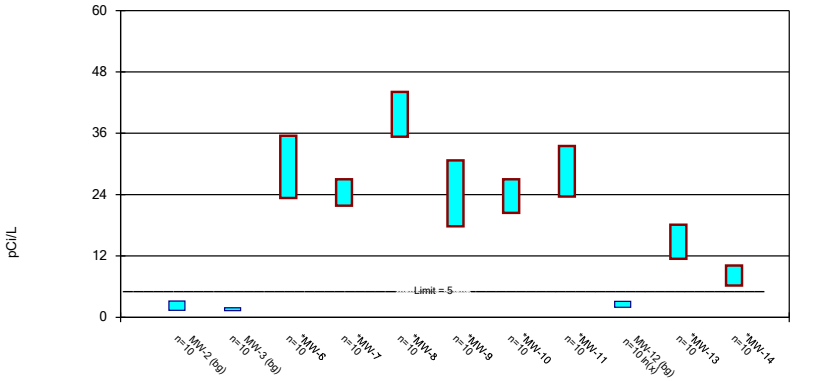
Constituent: Cobalt Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



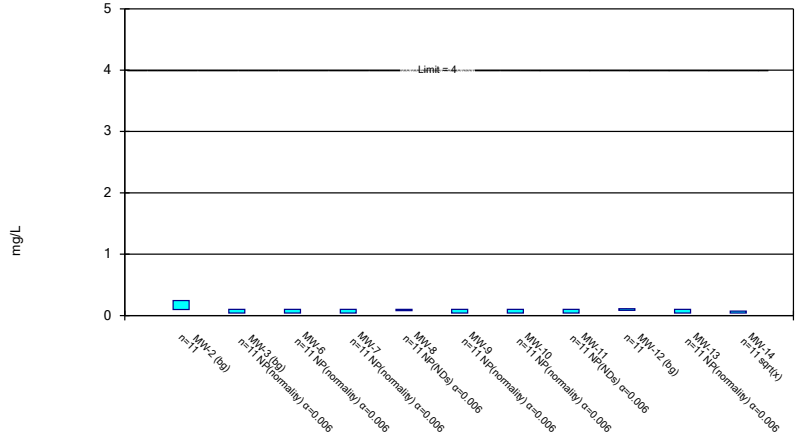
Constituent: Combined Radium 226 + 228 Analysis Run 10/14/2018 9:06 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



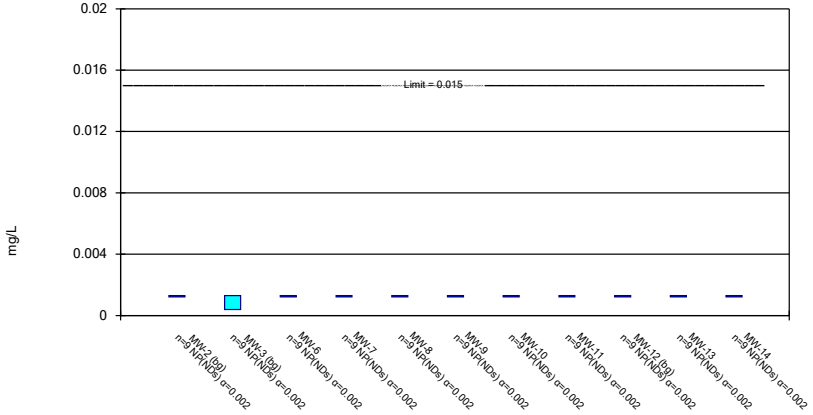
Constituent: Fluoride Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



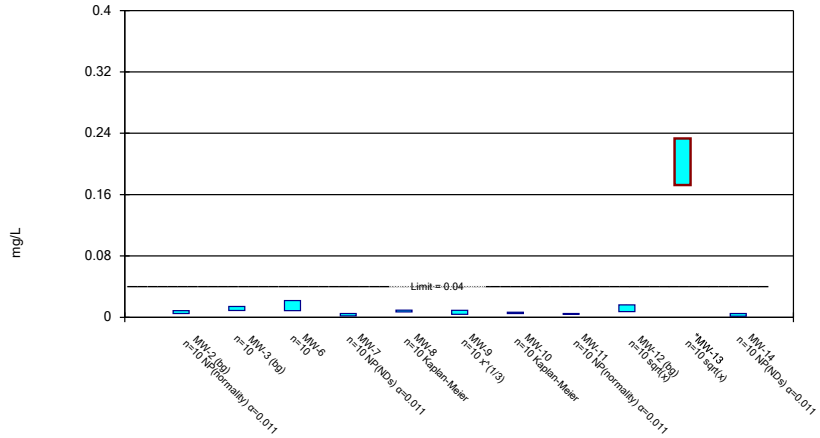
Constituent: Lead Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

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.



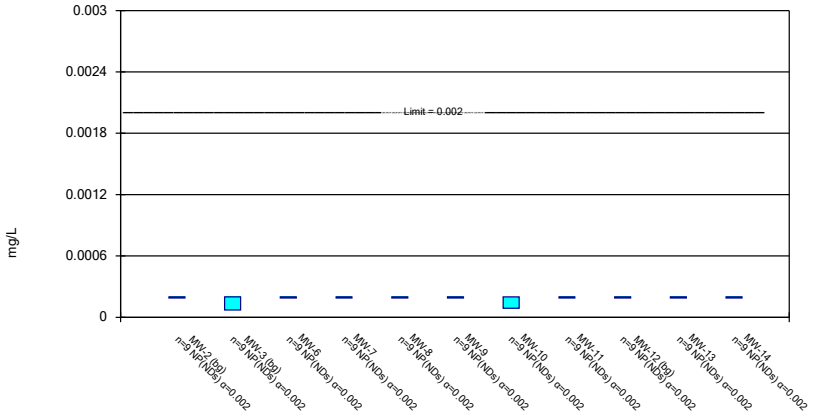
Constituent: Lithium Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



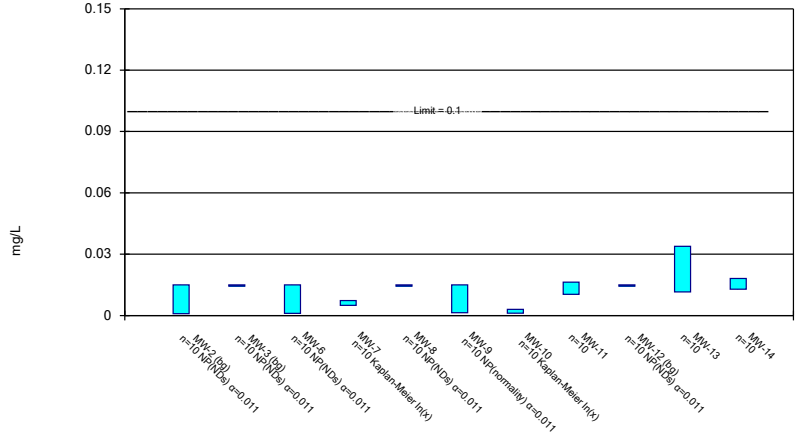
Constituent: Mercury Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

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.



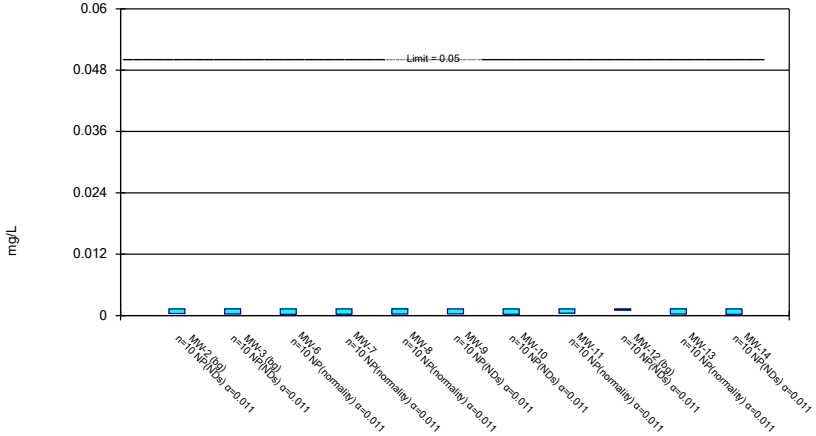
Constituent: Molybdenum Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



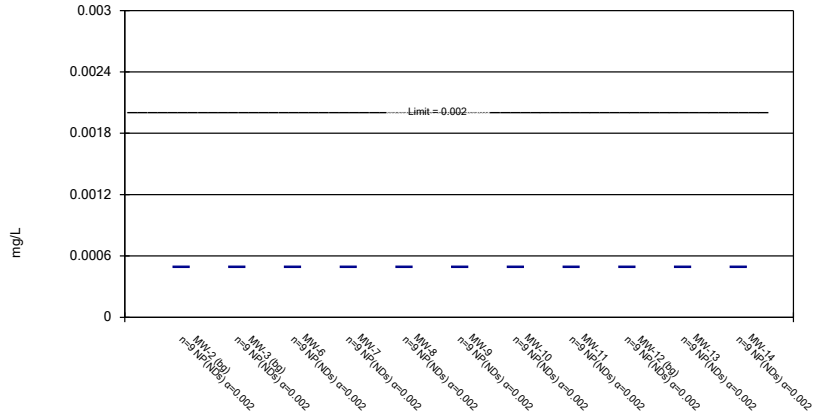
Constituent: Selenium Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

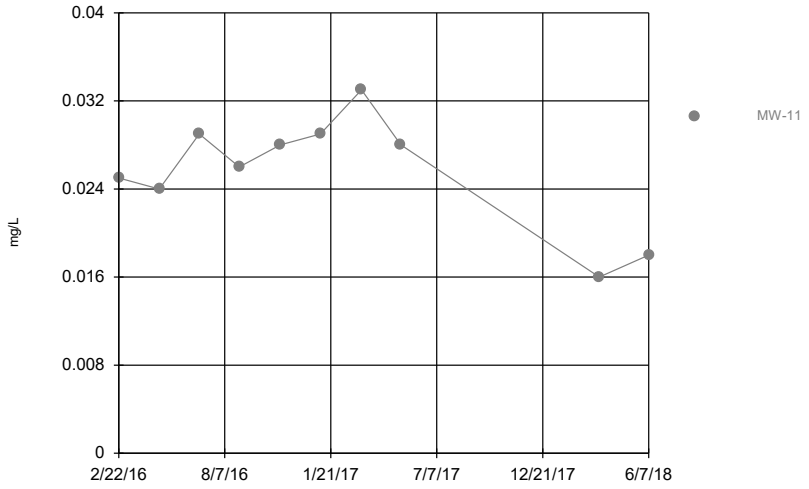


Constituent: Thallium Analysis Run 10/14/2018 9:07 PM View: Confidence Intervals

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

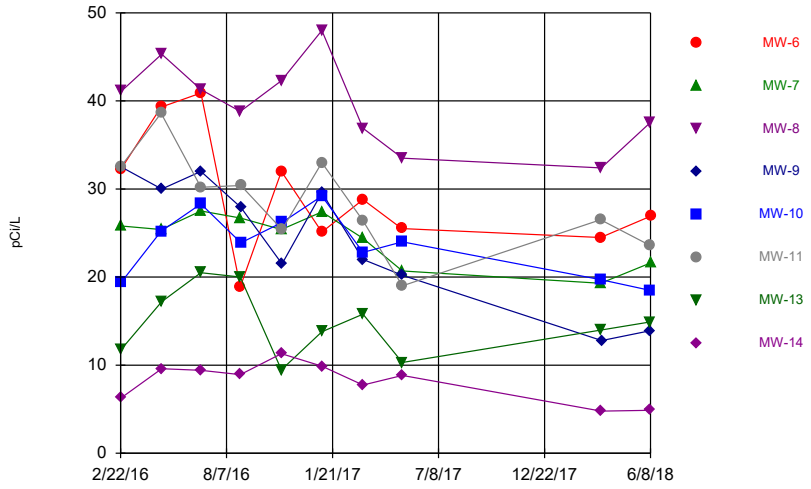
Time Series



Constituent: Arsenic Analysis Run 9/20/2018 3:21 PM View: Confidence Intervals - Updated
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

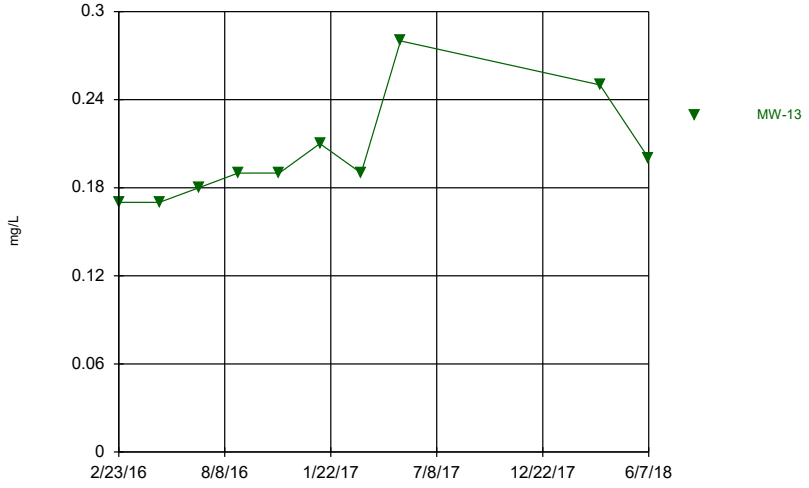
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 9/20/2018 3:21 PM View: Confidence Intervals -
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Time Series



Constituent: Lithium Analysis Run 9/20/2018 3:21 PM View: Confidence Intervals - Updated
Plant Smith Client: Southern Company Data: Smith CCR

Upper Tolerance Limits - App IV

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:05 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.0025	27	n/a	n/a	100	n/a	n/a	0.2503	NP Inter(NDs)
Arsenic (mg/L)	0.0013	30	n/a	n/a	96.67	n/a	n/a	0.2146	NP Inter(NDs)
Barium (mg/L)	0.03073	30	0.01763	0.005898	10	None	No	0.05	Inter
Beryllium (mg/L)	0.0025	30	n/a	n/a	100	n/a	n/a	0.2146	NP Inter(NDs)
Cadmium (mg/L)	0.0025	27	n/a	n/a	100	n/a	n/a	0.2503	NP Inter(NDs)
Chromium (mg/L)	0.012	30	n/a	n/a	46.67	n/a	n/a	0.2146	NP Inter(normal...
Cobalt (mg/L)	0.0025	30	n/a	n/a	100	n/a	n/a	0.2146	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	4.2	30	1.437	0.276	0	None	sqrt(x)	0.05	Inter
Fluoride (mg/L)	0.2723	33	0.426	0.1016	24.24	Kapla...	x^(1/3)	0.05	Inter
Lead (mg/L)	0.0013	27	n/a	n/a	92.59	n/a	n/a	0.2503	NP Inter(NDs)
Lithium (mg/L)	0.01834	30	0.09116	0.01993	20	Kapla...	sqrt(x)	0.05	Inter
Mercury (mg/L)	0.0002	27	n/a	n/a	96.3	n/a	n/a	0.2503	NP Inter(NDs)
Molybdenum (mg/L)	0.015	30	n/a	n/a	93.33	n/a	n/a	0.2146	NP Inter(NDs)
Selenium (mg/L)	0.0013	30	n/a	n/a	90	n/a	n/a	0.2146	NP Inter(NDs)
Thallium (mg/L)	0.0005	27	n/a	n/a	100	n/a	n/a	0.2503	NP Inter(NDs)

JUNE 2018 STATISTICAL ANALYSIS - APPENDIX III CONSTITUENTS

Interwell Prediction Limit Summary Table - Significant Results

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:17 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MW-6	0.33	n/a	6/8/2018	8.4	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-7	0.33	n/a	6/8/2018	3	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-8	0.33	n/a	6/7/2018	15	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-9	0.33	n/a	6/7/2018	9.3	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-10	0.33	n/a	6/7/2018	11	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-11	0.33	n/a	6/7/2018	3.7	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-13	0.33	n/a	6/7/2018	15	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-14	0.33	n/a	6/7/2018	12	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-6	59.3	n/a	6/8/2018	290	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-7	59.3	n/a	6/8/2018	200	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-8	59.3	n/a	6/7/2018	530	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-9	59.3	n/a	6/7/2018	280	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-10	59.3	n/a	6/7/2018	500	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-11	59.3	n/a	6/7/2018	100	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-13	59.3	n/a	6/7/2018	670	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-14	59.3	n/a	6/7/2018	260	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-6	250.5	n/a	6/8/2018	2900	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-7	250.5	n/a	6/8/2018	1400	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-8	250.5	n/a	6/7/2018	3500	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-9	250.5	n/a	6/7/2018	2200	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-10	250.5	n/a	6/7/2018	2700	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-11	250.5	n/a	6/7/2018	2000	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-13	250.5	n/a	6/7/2018	4300	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-14	250.5	n/a	6/7/2018	2200	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Sulfate (mg/L)	MW-6	6.6	n/a	6/8/2018	560	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-7	6.6	n/a	6/8/2018	750	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-8	6.6	n/a	6/7/2018	910	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-9	6.6	n/a	6/7/2018	640	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-10	6.6	n/a	6/7/2018	830	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-11	6.6	n/a	6/7/2018	240	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-13	6.6	n/a	6/7/2018	840	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-14	6.6	n/a	6/7/2018	590	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Total Dissolved Solids (mg/L)	MW-6	608.6	n/a	6/8/2018	6100	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-7	608.6	n/a	6/8/2018	3200	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-8	608.6	n/a	6/7/2018	6000	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-9	608.6	n/a	6/7/2018	4000	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-10	608.6	n/a	6/7/2018	5800	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-11	608.6	n/a	6/7/2018	3400	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-13	608.6	n/a	6/7/2018	8200	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-14	608.6	n/a	6/7/2018	4200	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2

Interwell Prediction Limit Summary Table - All Results

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:17 PM

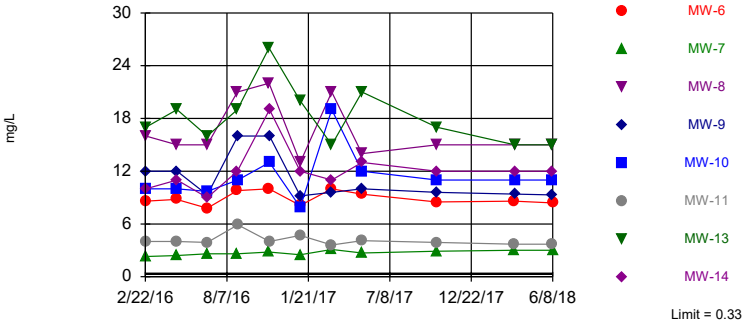
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MW-6	0.33	n/a	6/8/2018	8.4	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-7	0.33	n/a	6/8/2018	3	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-8	0.33	n/a	6/7/2018	15	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-9	0.33	n/a	6/7/2018	9.3	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-10	0.33	n/a	6/7/2018	11	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-11	0.33	n/a	6/7/2018	3.7	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-13	0.33	n/a	6/7/2018	15	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-14	0.33	n/a	6/7/2018	12	Yes	33	n/a	n/a	51.52	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-6	59.3	n/a	6/8/2018	290	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-7	59.3	n/a	6/8/2018	200	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-8	59.3	n/a	6/7/2018	530	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-9	59.3	n/a	6/7/2018	280	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-10	59.3	n/a	6/7/2018	500	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-11	59.3	n/a	6/7/2018	100	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-13	59.3	n/a	6/7/2018	670	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Calcium (mg/L)	MW-14	59.3	n/a	6/7/2018	260	Yes	33	22.78	17.82	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-6	250.5	n/a	6/8/2018	2900	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-7	250.5	n/a	6/8/2018	1400	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-8	250.5	n/a	6/7/2018	3500	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-9	250.5	n/a	6/7/2018	2200	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-10	250.5	n/a	6/7/2018	2700	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-11	250.5	n/a	6/7/2018	2000	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-13	250.5	n/a	6/7/2018	4300	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Chloride (mg/L)	MW-14	250.5	n/a	6/7/2018	2200	Yes	33	72.1	87.06	0	None	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-6	0.2377	n/a	6/8/2018	0.05	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-7	0.2377	n/a	6/8/2018	0.1ND	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-8	0.2377	n/a	6/7/2018	0.1ND	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-9	0.2377	n/a	6/7/2018	0.05	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-10	0.2377	n/a	6/7/2018	0.1ND	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-11	0.2377	n/a	6/7/2018	0.1ND	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-13	0.2377	n/a	6/7/2018	0.05	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Fluoride (mg/L)	MW-14	0.2377	n/a	6/7/2018	0.08	No	33	0.09148	0.07133	24.24	Kaplan-Meier	No	0.0009403	Param Inter 1 of 2
Sulfate (mg/L)	MW-6	6.6	n/a	6/8/2018	560	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-7	6.6	n/a	6/8/2018	750	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-8	6.6	n/a	6/7/2018	910	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-9	6.6	n/a	6/7/2018	640	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-10	6.6	n/a	6/7/2018	830	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-11	6.6	n/a	6/7/2018	240	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-13	6.6	n/a	6/7/2018	840	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-14	6.6	n/a	6/7/2018	590	Yes	33	n/a	n/a	69.7	n/a	n/a	0.001617	NP Inter (NDs) 1 of 2
Total Dissolved Solids (mg/L)	MW-6	608.6	n/a	6/8/2018	6100	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-7	608.6	n/a	6/8/2018	3200	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-8	608.6	n/a	6/7/2018	6000	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-9	608.6	n/a	6/7/2018	4000	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-10	608.6	n/a	6/7/2018	5800	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-11	608.6	n/a	6/7/2018	3400	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-13	608.6	n/a	6/7/2018	8200	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-14	608.6	n/a	6/7/2018	4200	Yes	32	215.1	191.4	0	None	No	0.0009403	Param Inter 1 of 2

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Exceeds Limit: MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 33 background values. 51.52% NDs. Annual per-constituent alpha = 0.02556. Individual comparison alpha = 0.001617 (1 of 2). Comparing 8 points to limit.

Constituent: Boron Analysis Run 10/14/2018 9:14 PM View: Interwell PLs

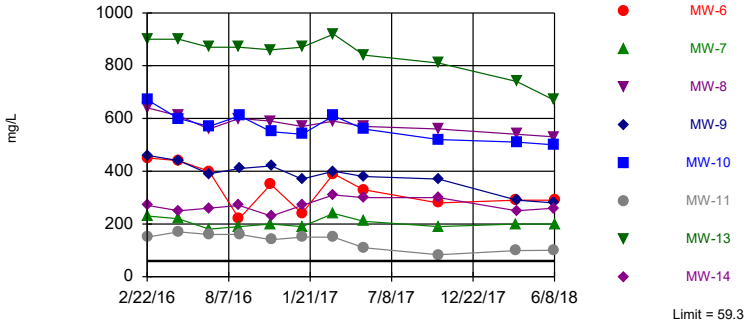
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Exceeds Limit: MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=22.78, Std. Dev.=17.82, n=33. Normality test was disabled. Kappa = 2.05 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0009403. Comparing 8 points to limit.

Constituent: Calcium Analysis Run 10/14/2018 9:15 PM View: Interwell PLs

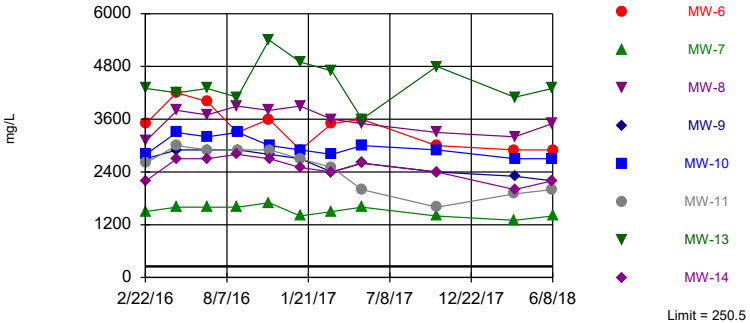
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Exceeds Limit: MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=72.1, Std. Dev.=87.06, n=33. Normality test was disabled. Kappa = 2.05 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0009403. Comparing 8 points to limit.

Constituent: Chloride Analysis Run 10/14/2018 9:15 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

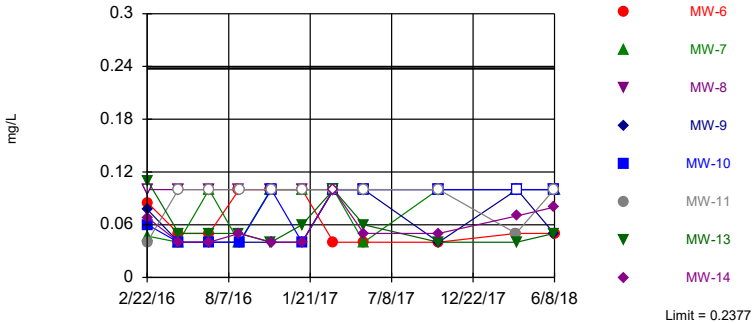
Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.09148, Std. Dev.=0.07133, n=33, 24.24% NDs. Normality test was disabled. Kappa = 2.05 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0009403. Comparing 8 points to limit.

Constituent: Fluoride Analysis Run 10/14/2018 9:15 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2 (bg)	MW-11	MW-12 (bg)	MW-3 (bg)	MW-9	MW-8	MW-7	MW-13	MW-6
2/22/2016	<0.05	4	0.14 (J)	<0.05					
2/23/2016					12	16	2.3	17	8.6
4/25/2016	0.022 (J)			<0.05					
4/26/2016		4	0.27				2.4		8.8
4/27/2016					12	15		19	
6/27/2016	0.032 (J)		0.083	<0.05					
6/28/2016		3.9			9.3	15	2.6	16	7.8
8/29/2016	<0.05 (*)		<0.05 (*)	<0.05		21	2.6	19	9.8
8/30/2016		5.9			16				
11/1/2016	<0.05		0.1	<0.05					
11/2/2016						22	2.8	26	10
11/3/2016		4			16				
1/4/2017	<0.05		0.062	<0.05					
1/5/2017		4.7			9.2	13	2.5	20	8.1
3/10/2017	0.032 (J)		0.06	<0.05					
3/11/2017		3.6			9.6	21	3.1	15	10
5/11/2017	0.23		0.33	0.18					9.4
5/12/2017		4.1			10	14	2.7	21	
10/12/2017	<0.05		0.082	<0.05			2.9		8.5
10/13/2017		3.9			9.6	15		17	
3/20/2018			0.072	<0.05					
3/21/2018	<0.05	3.7					3		8.6
3/22/2018						15		15	
3/23/2018					9.4				
6/6/2018	0.027 (J)		0.077	<0.05					
6/7/2018		3.7			9.3	15		15	
6/8/2018							3		8.4

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-14	MW-10
2/22/2016		
2/23/2016	10	10
4/25/2016		
4/26/2016		10
4/27/2016	11	
6/27/2016		
6/28/2016	9	9.7
8/29/2016	12	
8/30/2016		11
11/1/2016		
11/2/2016		
11/3/2016	19	13
1/4/2017		
1/5/2017	12	7.9
3/10/2017		
3/11/2017	11	19
5/11/2017		
5/12/2017	13	12
10/12/2017		
10/13/2017	12	11
3/20/2018		
3/21/2018		
3/22/2018	12	11
3/23/2018		
6/6/2018		
6/7/2018	12	11
6/8/2018		

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2 (bg)	MW-11	MW-12 (bg)	MW-3 (bg)	MW-9	MW-8	MW-7	MW-13	MW-6
2/22/2016	12	150	23	1.9					
2/23/2016					460	640	230	900	450
4/25/2016	11			1.8					
4/26/2016		170	33				220		440
4/27/2016					440	610		900	
6/27/2016	7.7		29	1.7					
6/28/2016		160			390	560	180	870	400
8/29/2016	48		28	1.7		600	190	870	220
8/30/2016		160			410				
11/1/2016	49		36	1.9					
11/2/2016						590	200	860	350
11/3/2016		140			420				
1/4/2017	44		36	1.8					
1/5/2017		150			370	570	190	870	240
3/10/2017	46		37	1.9					
3/11/2017		150			400	590	240	920	390
5/11/2017	43		31	1.7					330
5/12/2017		110			380	570	210	840	
10/12/2017	45		32	1.9			190		280
10/13/2017		83			370	560		810	
3/20/2018			34	1.9					
3/21/2018	45	99					200		290
3/22/2018						540		740	
3/23/2018					290				
6/6/2018	32		30	1.8					
6/7/2018		100			280	530		670	
6/8/2018							200		290

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-14	MW-10
2/22/2016		
2/23/2016	270	670
4/25/2016		
4/26/2016		600
4/27/2016	250	
6/27/2016		
6/28/2016	260	570
8/29/2016	270	
8/30/2016		610
11/1/2016		
11/2/2016		
11/3/2016	230	550
1/4/2017		
1/5/2017	270	540
3/10/2017		
3/11/2017	310	610
5/11/2017		
5/12/2017	300	560
10/12/2017		
10/13/2017	300	520
3/20/2018		
3/21/2018		
3/22/2018	250	510
3/23/2018		
6/6/2018		
6/7/2018	260	500
6/8/2018		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2 (bg)	MW-11	MW-12 (bg)	MW-3 (bg)	MW-9	MW-8	MW-7	MW-13	MW-6
2/22/2016	15	2600	140	11					
2/23/2016					2700	3100	1500	4300	3500
4/25/2016	18			10					
4/26/2016		3000	190				1600		4200
4/27/2016					2900	3800		4200	
6/27/2016	17		170	11					
6/28/2016		2900			2900	3700	1600	4300	4000
8/29/2016	16		180	11		3900	1600	4100	3300
8/30/2016		2900			2900				
11/1/2016	11		230	11					
11/2/2016						3800	1700	5400	3600
11/3/2016		2900			2800				
1/4/2017	11		220	11					
1/5/2017		2700			2700	3900	1400	4900	2900
3/10/2017	14		210	11					
3/11/2017		2500			2400	3600	1500	4700	3500
5/11/2017	11		200	12					3600
5/12/2017		2000			2600	3500	1600	3600	
10/12/2017	12		190	12			1400		3000
10/13/2017		1600			2400	3300		4800	
3/20/2018			190	11					
3/21/2018	9.3	1900					1300		2900
3/22/2018						3200		4100	
3/23/2018					2300				
6/6/2018	13		190	11					
6/7/2018		2000			2200	3500		4300	
6/8/2018							1400		2900

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-14	MW-10
2/22/2016		
2/23/2016	2200	2800
4/25/2016		
4/26/2016		3300
4/27/2016	2700	
6/27/2016		
6/28/2016	2700	3200
8/29/2016	2800	
8/30/2016		3300
11/1/2016		
11/2/2016		
11/3/2016	2700	3000
1/4/2017		
1/5/2017	2500	2900
3/10/2017		
3/11/2017	2400	2800
5/11/2017		
5/12/2017	2600	3000
10/12/2017		
10/13/2017	2400	2900
3/20/2018		
3/21/2018		
3/22/2018	2000	2700
3/23/2018		
6/6/2018		
6/7/2018	2200	2700
6/8/2018		

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2 (bg)	MW-11	MW-12 (bg)	MW-3 (bg)	MW-9	MW-8	MW-7	MW-13	MW-6
2/22/2016	0.06 (J)	0.04 (J)	0.09 (J)	0.04 (J)					
2/23/2016					0.077 (J)	<0.1	0.047 (J)	0.11	0.085 (J)
4/25/2016	0.04 (J)			<0.1					
4/26/2016		<0.1	0.08 (J)				0.04 (J)		0.05 (J)
4/27/2016					0.04 (J)	<0.1		0.05 (J)	
6/27/2016	0.04 (J)		0.08 (J)	<0.1					
6/28/2016		<0.1			0.04 (J)	<0.1	<0.1	0.05 (J)	0.05 (J)
8/29/2016	0.16		0.09 (J)	0.04 (J)		<0.1	0.04 (J)	0.05 (J)	<0.1
8/30/2016		<0.1			0.04 (J)				
11/1/2016	0.17		0.08 (J)	<0.1					
11/2/2016						<0.1	<0.1	0.04 (J)	<0.1
11/3/2016		<0.1			0.04 (J)				
1/4/2017	0.23		0.1	<0.1					
1/5/2017		<0.1			0.04 (J)	<0.1	<0.1	0.06 (J)	<0.1
3/10/2017	0.21		0.1	<0.1					
3/11/2017		<0.1			<0.1	<0.1	<0.1	<0.1	0.04 (J)
5/11/2017	0.23		0.1	<0.1					0.04 (J)
5/12/2017		<0.1			<0.1	<0.1	0.04 (J)	0.06 (J)	
10/12/2017	0.27		0.12	<0.1			<0.1		0.04
10/13/2017		<0.1			0.04	<0.1		0.04	
3/20/2018			0.12	<0.1					
3/21/2018	0.28	0.05 (J)					<0.1		0.05 (J)
3/22/2018						<0.1		0.04 (J)	
3/23/2018					<0.1				
6/6/2018	0.19		0.12	0.04 (J)					
6/7/2018		<0.1			0.05 (J)	<0.1		0.05 (J)	
6/8/2018							<0.1		0.05 (J)

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

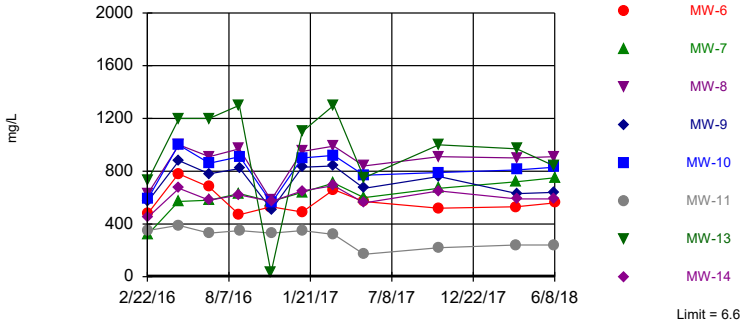
	MW-14	MW-10
2/22/2016		
2/23/2016	0.068 (J)	0.06 (J)
4/25/2016		
4/26/2016		0.04 (J)
4/27/2016	0.04 (J)	
6/27/2016		
6/28/2016	0.04 (J)	0.04 (J)
8/29/2016	0.05 (J)	
8/30/2016		0.04 (J)
11/1/2016		
11/2/2016		
11/3/2016	0.04 (J)	<0.1
1/4/2017		
1/5/2017	0.04 (J)	0.04 (J)
3/10/2017		
3/11/2017	<0.1	<0.1
5/11/2017		
5/12/2017	0.05 (J)	<0.1
10/12/2017		
10/13/2017	0.05	<0.1
3/20/2018		
3/21/2018		
3/22/2018	0.07 (J)	<0.1
3/23/2018		
6/6/2018		
6/7/2018	0.08 (J)	<0.1
6/8/2018		

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Exceeds Limit: MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 33 background values. 69.7% NDs. Annual per-constituent alpha = 0.02556. Individual comparison alpha = 0.001617 (1 of 2). Comparing 8 points to limit.

Constituent: Sulfate Analysis Run 10/14/2018 9:15 PM View: Interwell PLs

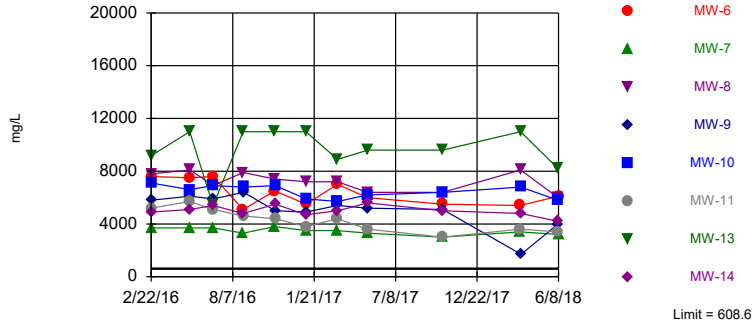
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Exceeds Limit: MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=215.1, Std. Dev.=191.4, n=32. Normality test was disabled. Kappa = 2.056 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0009403. Comparing 8 points to limit.

Constituent: Total Dissolved Solids Analysis Run 10/14/2018 9:15 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2 (bg)	MW-11	MW-12 (bg)	MW-3 (bg)	MW-9	MW-8	MW-7	MW-13	MW-6
2/22/2016	6.3	350	<5	<5					
2/23/2016					570	630	320	730	480
4/25/2016	6.1			1.4 (J)					
4/26/2016		390	<5				570		780
4/27/2016					880	1000		1200	
6/27/2016	6.6		1.6 (J)	<5					
6/28/2016		330			780	910	580	1200	680
8/29/2016	4.5 (J)		<5	<5		970	630	1300	470 (J)
8/30/2016		350			820				
11/1/2016	<5		<5	<5					
11/2/2016						580	570	31	530
11/3/2016		330			510				
1/4/2017	<5 (*)		<5	<5 (*)					
1/5/2017		350			830	950	640	1100	490
3/10/2017	2.3 (J)		<5	<5					
3/11/2017		320			840	990	710	1300	660
5/11/2017	<5		<5	<5					570
5/12/2017		170 (J)			670	840	600	750	
10/12/2017	<5		<5	<5			670		520
10/13/2017		220			760	910		1000	
3/20/2018			1.8 (J)	<5					
3/21/2018	<5	240					720		530
3/22/2018						900		970	
3/23/2018					630				
6/6/2018	4.8 (J)		2.3 (J)	<5					
6/7/2018		240			640	910		840	
6/8/2018							750		560

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-14	MW-10
2/22/2016		
2/23/2016	450	590
4/25/2016		
4/26/2016		1000
4/27/2016	670	
6/27/2016		
6/28/2016	580	860
8/29/2016	620	
8/30/2016		910
11/1/2016		
11/2/2016		
11/3/2016	570	560
1/4/2017		
1/5/2017	650	900
3/10/2017		
3/11/2017	690	920
5/11/2017		
5/12/2017	560	770
10/12/2017		
10/13/2017	650	790
3/20/2018		
3/21/2018		
3/22/2018	590	810
3/23/2018		
6/6/2018		
6/7/2018	590	830
6/8/2018		

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2 (bg)	MW-11	MW-12 (bg)	MW-3 (bg)	MW-8	MW-10	MW-7	MW-6	MW-13
2/22/2016	74	5200	410	46					
2/23/2016					7800	7100	3700	7600	9200
5/11/2016	200	5700	410	42		6600	3700	7500	11000
5/12/2016					8100				
6/27/2016	42		4200 (o)	24					
6/28/2016		5100			6900	6900	3700	7600	5400
8/29/2016	200		490	42	7900		3300	5100	11000
8/30/2016		4600				6800			
11/1/2016	220		540	64					
11/2/2016					7400		3800	6500	11000
11/3/2016		4400				6900			
1/4/2017	140		520	44					
1/5/2017		3800			7200	5900	3500	5500	11000
3/10/2017	160		490	16					
3/11/2017		4400			7200	5700	3500	7000	8900
5/11/2017	190		490	42				6000	
5/12/2017		3600			6400	6200	3300		9600
10/12/2017	150		470	30			3000	5500	
10/13/2017		3000			6400	6400			9600
3/20/2018			510	12					
3/21/2018	150	3600					3400	5400	
3/22/2018					8100	6800			11000
3/23/2018									
6/6/2018	160		460	46					
6/7/2018		3400			6000	5800			8200
6/8/2018							3200	6100	

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/14/2018 9:17 PM View: Interwell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-9	MW-14
2/22/2016		
2/23/2016	5800	4900
5/11/2016		
5/12/2016	6100	5100
6/27/2016		
6/28/2016	5900	5400
8/29/2016		4800
8/30/2016	6400	
11/1/2016		
11/2/2016		
11/3/2016	5000	5500
1/4/2017		
1/5/2017	4900	4700
3/10/2017		
3/11/2017	5400	5000
5/11/2017		
5/12/2017	5200	5600
10/12/2017		
10/13/2017	5100	5000
3/20/2018		
3/21/2018		
3/22/2018		4800
3/23/2018	1700	
6/6/2018		
6/7/2018	4000	4200
6/8/2018		

Intrawell Prediction Limit Summary Table - All Results

Plant Smith Client: Southern Company Data: Smith CCR Printed 10/14/2018, 9:14 PM

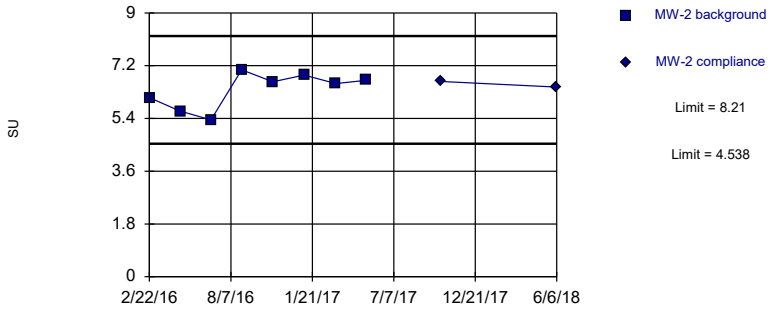
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (SU)	MW-2	8.21	4.538	6/6/2018	6.47	No	8	6.374	0.6092	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-3	5.354	4.616	6/6/2018	4.96	No	8	4.985	0.1225	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-6	6.253	3.967	6/8/2018	5.25	No	8	5.11	0.3792	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-7	6.575	5.86	6/8/2018	6.31	No	8	6.218	0.1188	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-8	5.62	3.568	6/7/2018	4.73	No	8	4.594	0.3404	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-9	6.725	4.202	6/7/2018	6.52	No	8	5.464	0.4185	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-10	5.468	4.964	6/7/2018	5.35	No	8	5.216	0.08366	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-11	7.003	5.977	6/7/2018	6.39	No	8	6.49	0.1702	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-12	6.28	5.823	6/6/2018	6.04	No	8	6.051	0.07586	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-13	7.628	6.58	6/7/2018	6.86	No	8	7.104	0.1739	0	None	No	0.0004701	Param Intra 1 of 2
pH (SU)	MW-14	6.959	6.416	6/7/2018	6.88	No	8	6.688	0.09004	0	None	No	0.0004701	Param Intra 1 of 2

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.374, Std. Dev.=0.6092, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

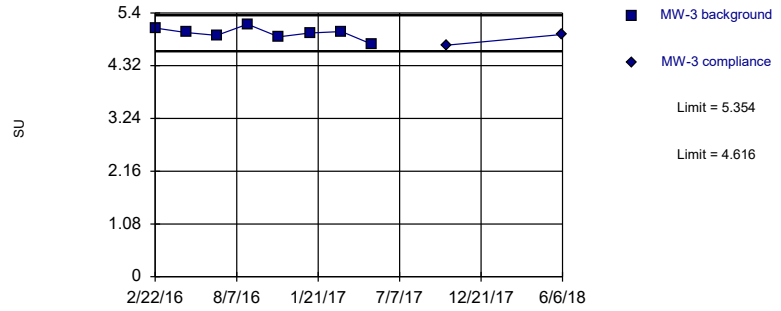
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4.985, Std. Dev.=0.1225, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

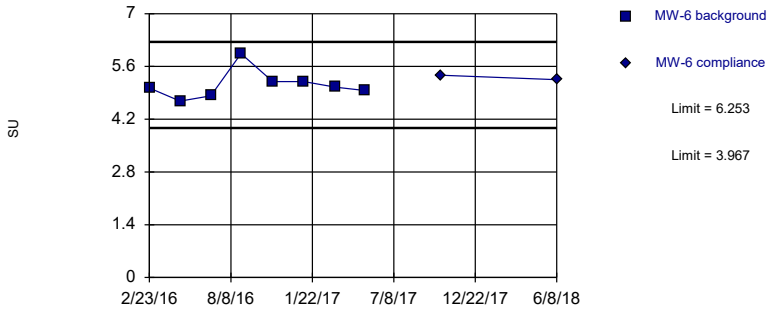
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.11, Std. Dev.=0.3792, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

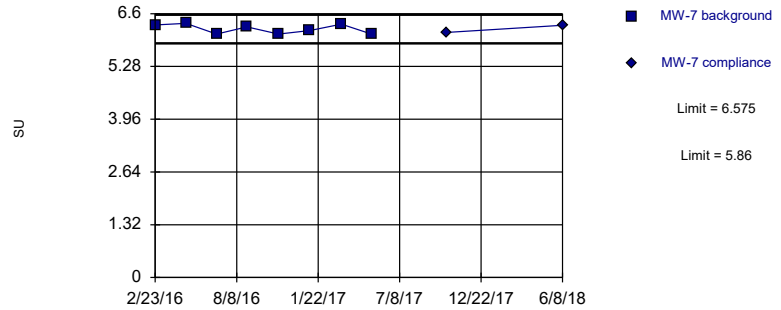
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.218, Std. Dev.=0.1188, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-2	MW-2
2/22/2016	6.11 (B01)	
4/25/2016	5.65 (B02)	
6/27/2016	5.35 (B03)	
8/29/2016	7.06 (B04)	
11/1/2016	6.65 (B05)	
1/4/2017	6.88 (B06)	
3/10/2017	6.59 (B07)	
5/11/2017	6.7 (B08)	
10/12/2017		6.66
6/6/2018		6.47

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-3	MW-3
2/22/2016	5.09 (B01)	
4/25/2016	5 (B02)	
6/27/2016	4.94 (B03)	
8/29/2016	5.17 (B04)	
11/1/2016	4.91 (B05)	
1/4/2017	4.99 (B06)	
3/10/2017	5.02 (B07)	
5/11/2017	4.76 (B08)	
10/12/2017		4.74
6/6/2018		4.96

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-6	MW-6
2/23/2016	5.03 (B01)	
4/26/2016	4.68 (B02)	
6/28/2016	4.82 (B03)	
8/29/2016	5.94 (B04)	
11/2/2016	5.2 (B05)	
1/5/2017	5.2 (B06)	
3/11/2017	5.05 (B07)	
5/11/2017	4.96 (B08)	
10/12/2017		5.37
6/8/2018		5.25

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

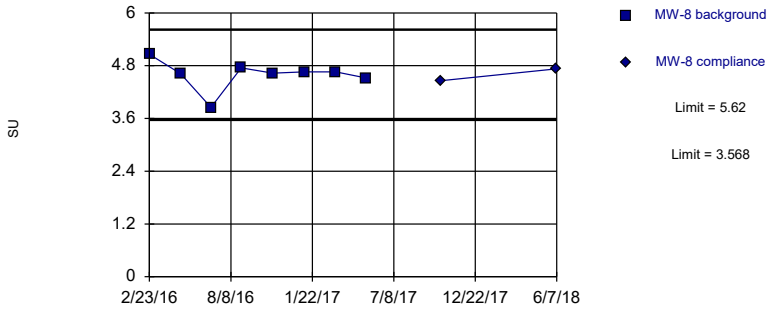
	MW-7	MW-7
2/23/2016	6.32 (B01)	
4/26/2016	6.36 (B02)	
6/28/2016	6.09 (B03)	
8/29/2016	6.27 (B04)	
11/2/2016	6.09 (B05)	
1/5/2017	6.18 (B06)	
3/11/2017	6.34 (B07)	
5/12/2017	6.09 (B08)	
10/12/2017		6.13
6/8/2018		6.31

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=4.594, Std. Dev.=0.3404, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

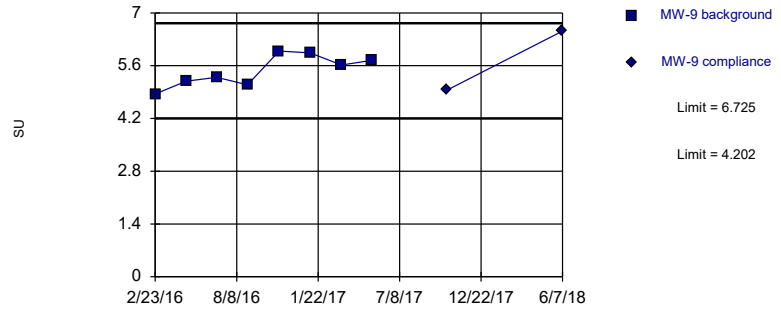
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.464, Std. Dev.=0.4185, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

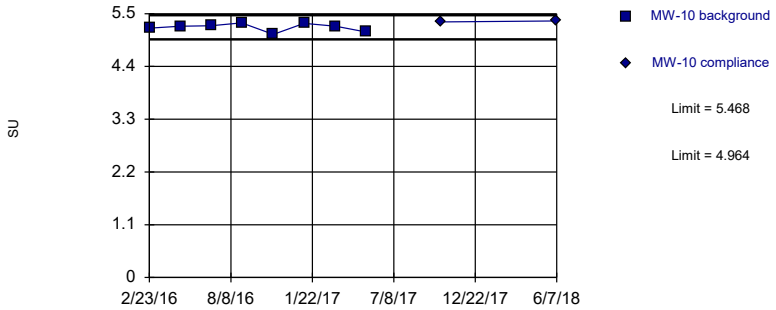
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=5.216, Std. Dev.=0.08366, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

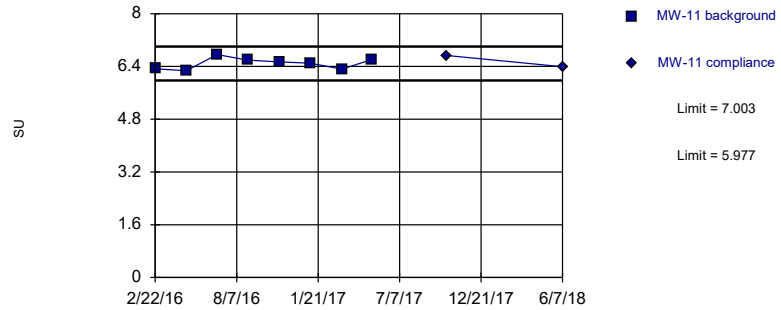
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.49, Std. Dev.=0.1702, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-8	MW-8
2/23/2016	5.06 (B01)	
4/27/2016	4.62 (B02)	
6/28/2016	3.85 (B03)	
8/29/2016	4.75 (B04)	
11/2/2016	4.63 (B05)	
1/5/2017	4.66 (B06)	
3/11/2017	4.66 (B07)	
5/12/2017	4.52 (B08)	
10/13/2017		4.46
6/7/2018		4.73

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-9	MW-9
2/23/2016	4.85 (B01)	
4/27/2016	5.19 (B02)	
6/28/2016	5.29 (B03)	
8/30/2016	5.09 (B04)	
11/3/2016	5.99 (B05)	
1/5/2017	5.94 (B06)	
3/11/2017	5.62 (B07)	
5/12/2017	5.74 (B08)	
10/13/2017		4.95
6/7/2018		6.52

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-10	MW-10
2/23/2016	5.2 (B01)	
4/26/2016	5.24 (B02)	
6/28/2016	5.25 (B03)	
8/30/2016	5.31 (B04)	
11/3/2016	5.07 (B05)	
1/5/2017	5.3 (B06)	
3/11/2017	5.24 (B07)	
5/12/2017	5.12 (B08)	
10/13/2017		5.33
6/7/2018		5.35

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

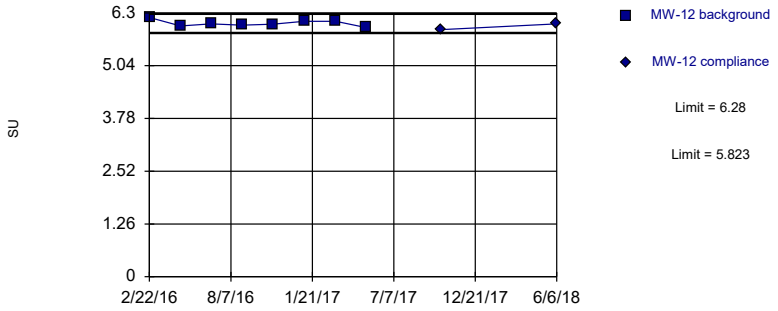
	MW-11	MW-11
2/22/2016	6.33 (B01)	
4/26/2016	6.27 (B02)	
6/28/2016	6.76 (B03)	
8/30/2016	6.59 (B04)	
11/3/2016	6.54 (B05)	
1/5/2017	6.5 (B06)	
3/11/2017	6.32 (B07)	
5/12/2017	6.61 (B08)	
10/13/2017		6.73
6/7/2018		6.39

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.051, Std. Dev.=0.07586, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:11 PM View: Intrawell PLs

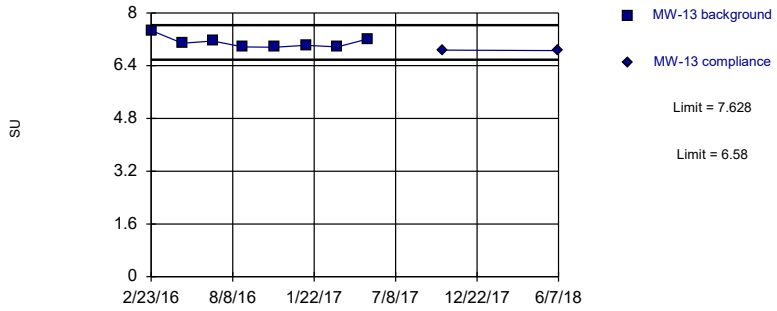
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.104, Std. Dev.=0.1739, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:12 PM View: Intrawell PLs

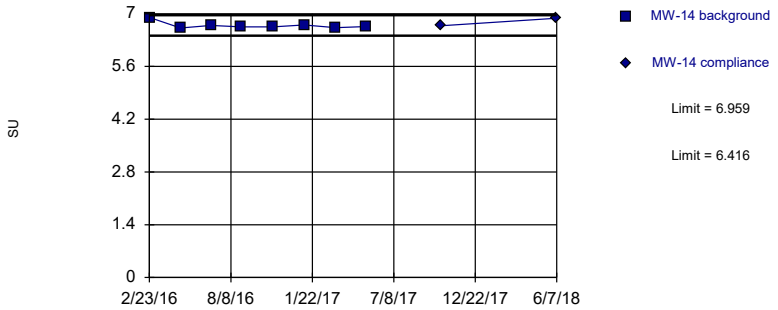
Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.688, Std. Dev.=0.09004, n=8. Normality test was disabled. Kappa = 3.014 (c=7, w=8, 1 of 2, event alpha = 0.05132). Report alpha = 0.0009403.

Constituent: pH Analysis Run 10/14/2018 9:12 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-12	MW-12
2/22/2016	6.19 (B01)	
4/26/2016	5.99 (B02)	
6/27/2016	6.04 (B03)	
8/29/2016	6.01 (B04)	
11/1/2016	6.03 (B05)	
1/4/2017	6.1 (B06)	
3/10/2017	6.1 (B07)	
5/11/2017	5.95 (B08)	
10/12/2017		5.9
6/6/2018		6.04

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-13	MW-13
2/23/2016	7.47 (B01)	
4/27/2016	7.08 (B02)	
6/28/2016	7.15 (B03)	
8/29/2016	6.97 (B04)	
11/2/2016	6.96 (B05)	
1/5/2017	7.02 (B06)	
3/11/2017	6.97 (B07)	
5/12/2017	7.21 (B08)	
10/13/2017		6.87
6/7/2018		6.86

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 9:14 PM View: Intrawell PLs

Plant Smith Client: Southern Company Data: Smith CCR

	MW-14	MW-14
2/23/2016	6.9 (B01)	
4/27/2016	6.62 (B02)	
6/28/2016	6.69 (B03)	
8/29/2016	6.65 (B04)	
11/2/2016	6.65 (B05)	
1/5/2017	6.7 (B06)	
3/11/2017	6.63 (B07)	
5/12/2017	6.66 (B08)	
10/13/2017		6.68
6/7/2018		6.88

Trend Test Summary Table - Significant App III Results

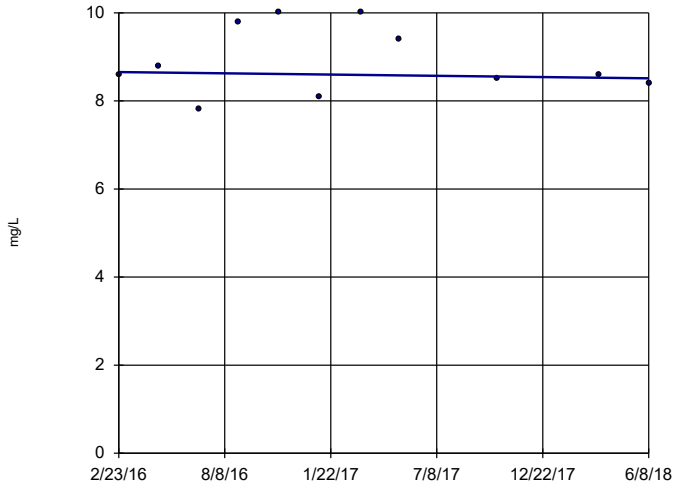
Plant Smith Client: Southern Company Data: Smith CCR Printed 10/9/2018, 9:14 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**MW-7**	**0.2874**	**37**	**34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MW-8**	**-38.22**	**-40**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MW-9**	**-63.42**	**-42**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MW-10**	**-57.03**	**-38**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MW-11**	**-32.81**	**-35**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MW-13**	**-71.1**	**-37**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**MW-9**	**-341.8**	**-40**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**MW-11**	**-570.3**	**-35**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**MW-7**	**106.1**	**42**	**34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**MW-11**	**-1123**	**-45**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-6



n = 11

Slope = -0.06114 units per year.

Mann-Kendall statistic = -3 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

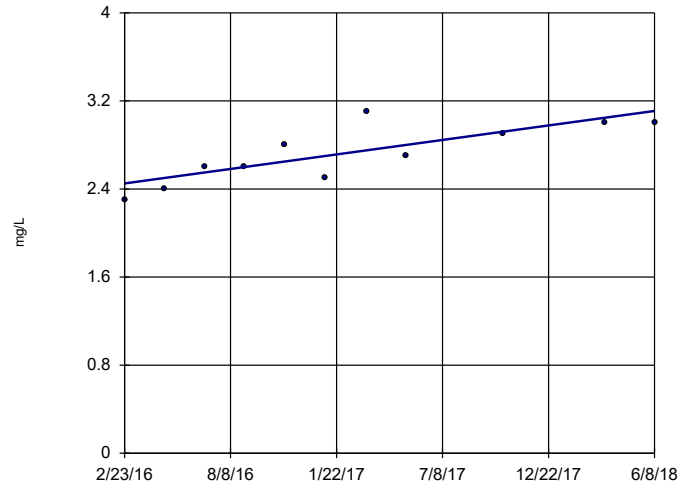
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-7



n = 11

Slope = 0.2874 units per year.

Mann-Kendall statistic = 37 critical = 34

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

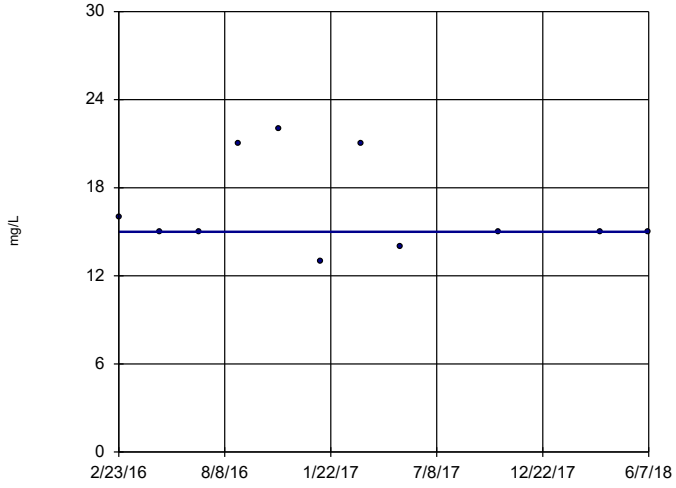
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-8



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -8 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

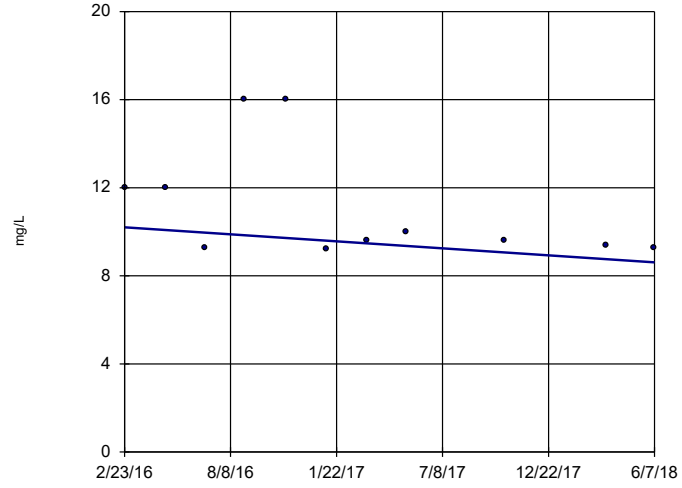
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-9



n = 11

Slope = -0.6952 units per year.

Mann-Kendall statistic = -19 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

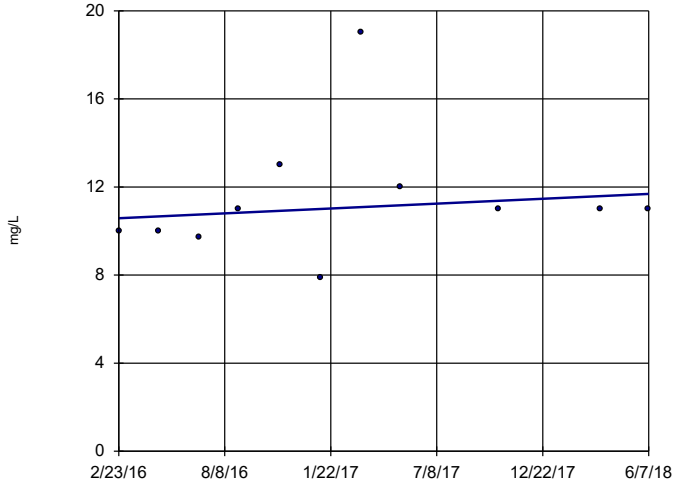
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-10



n = 11

Slope = 0.4815 units per year.

Mann-Kendall statistic = 12 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

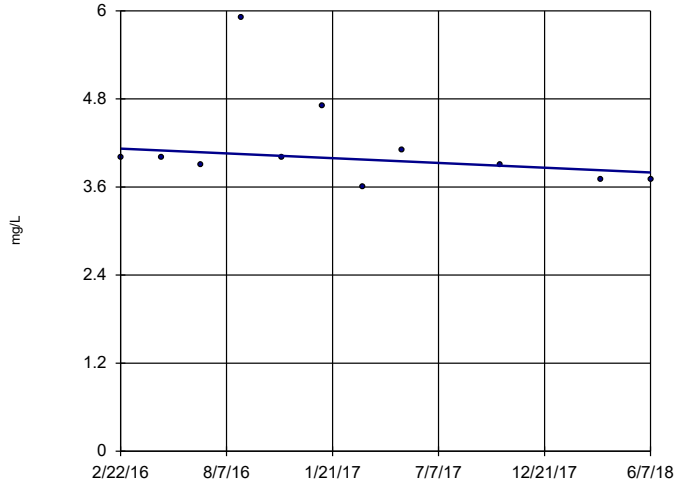
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 11

Slope = -0.1418 units per year.

Mann-Kendall statistic = -18 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

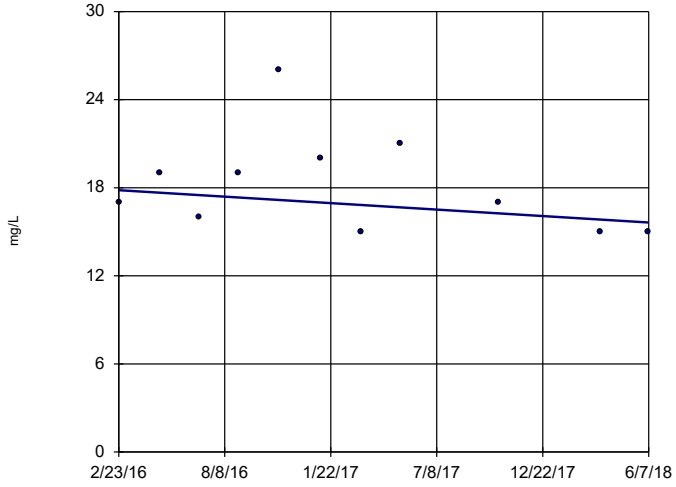
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 11

Slope = -0.9631 units per year.

Mann-Kendall statistic = -12 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

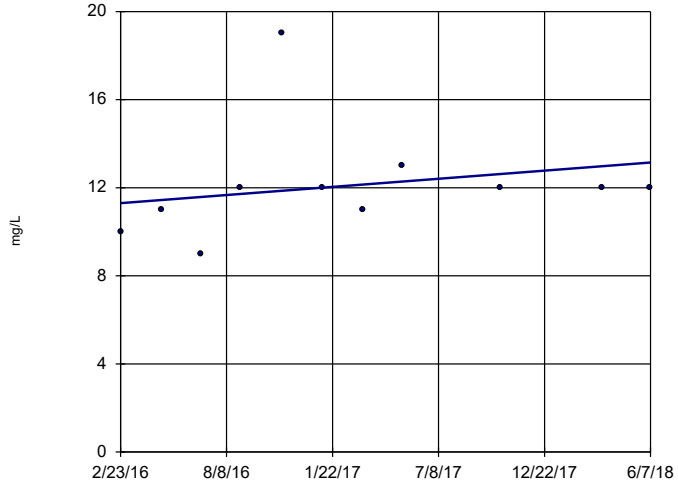
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-14



n = 11

Slope = 0.8057 units per year.

Mann-Kendall statistic = 18 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

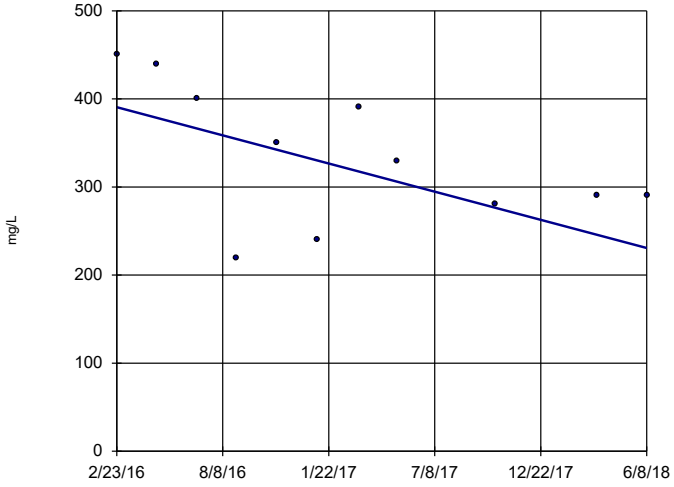
Constituent: Boron Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-6



n = 11

Slope = -69.86 units per year.

Mann-Kendall statistic = -24 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

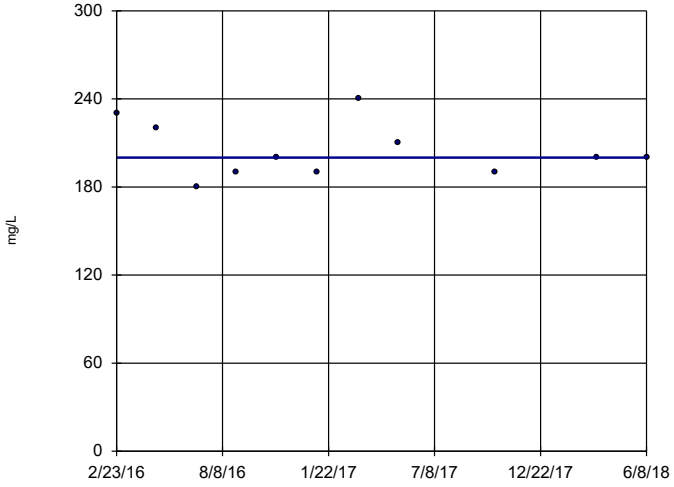
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-7



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -3 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

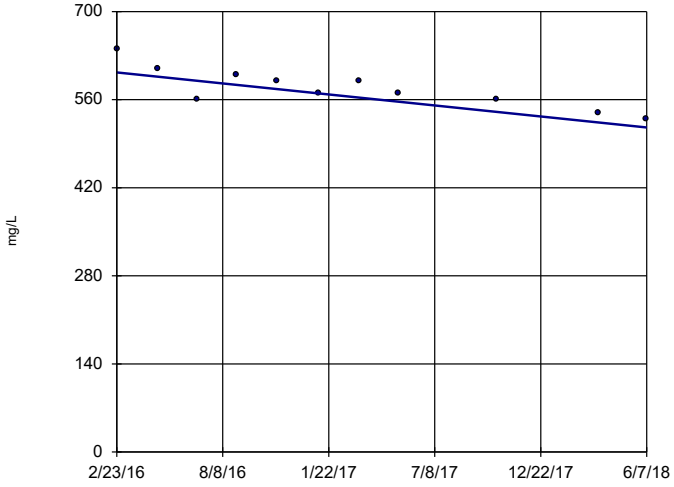
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-8



n = 11

Slope = -38.22 units per year.

Mann-Kendall statistic = -40 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

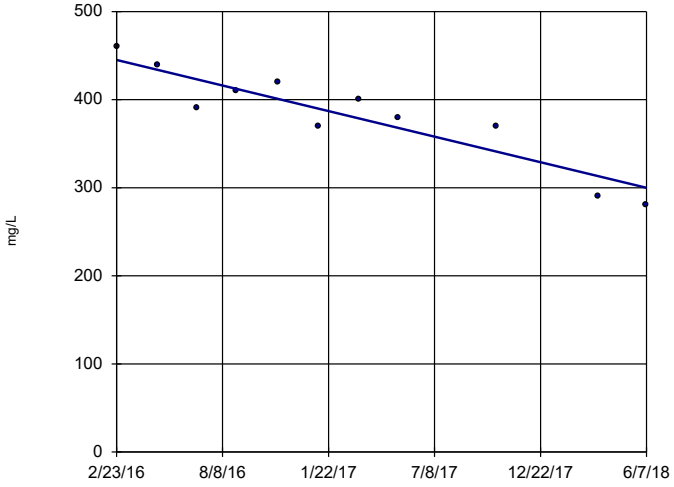
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-9



n = 11

Slope = -63.42 units per year.

Mann-Kendall statistic = -42 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

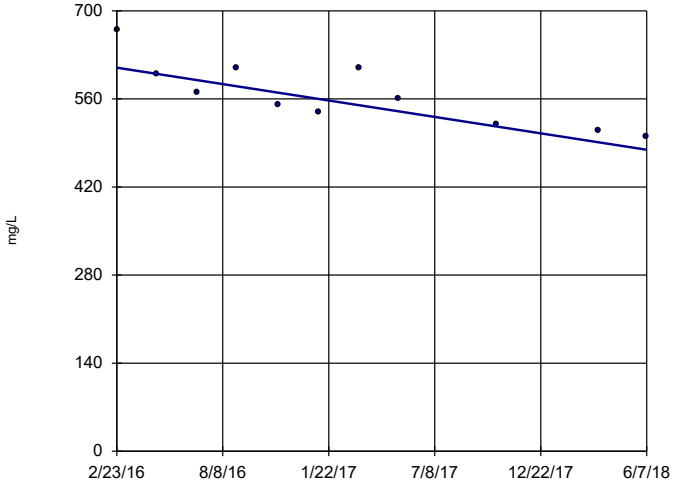
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-10



n = 11

Slope = -57.03 units per year.

Mann-Kendall statistic = -38 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

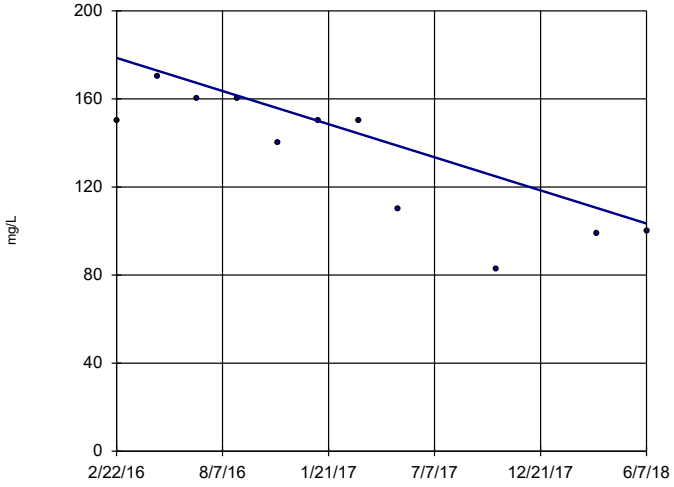
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 11

Slope = -32.81 units per year.

Mann-Kendall statistic = -35 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

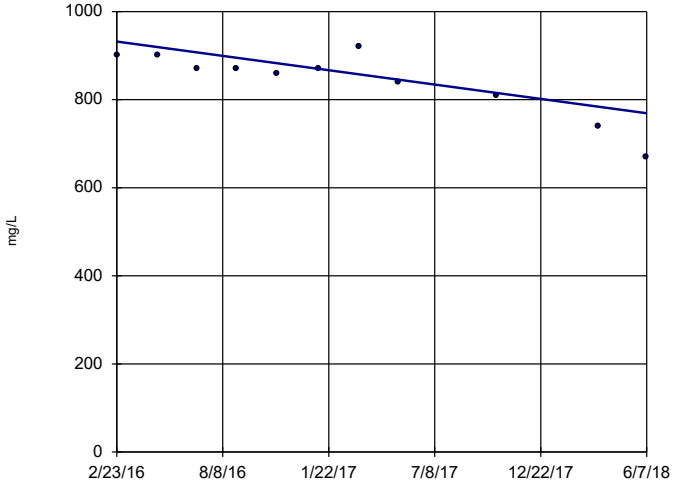
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 11

Slope = -71.1 units per year.

Mann-Kendall statistic = -37 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

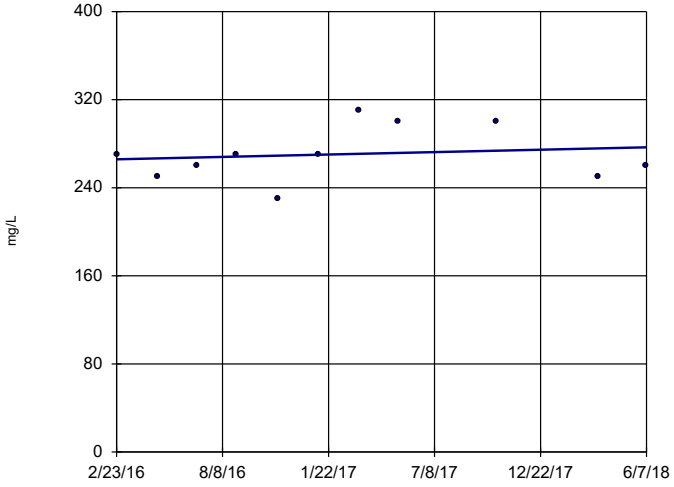
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-14



n = 11

Slope = 4.734 units per year.

Mann-Kendall statistic = 7 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

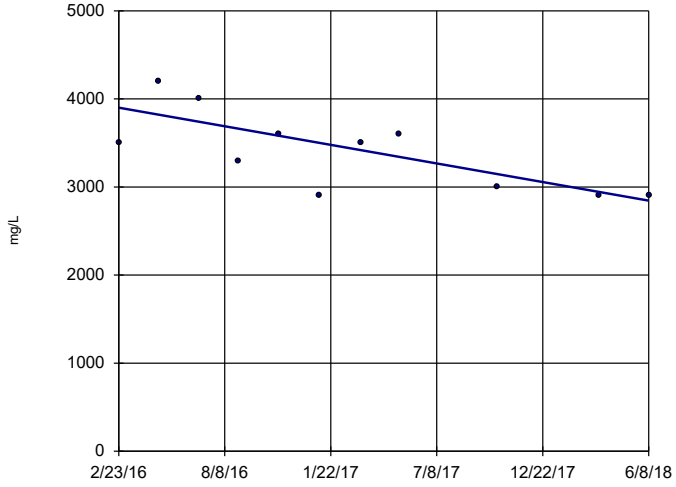
Constituent: Calcium Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-6



n = 11

Slope = -460.6 units per year.

Mann-Kendall statistic = -28 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

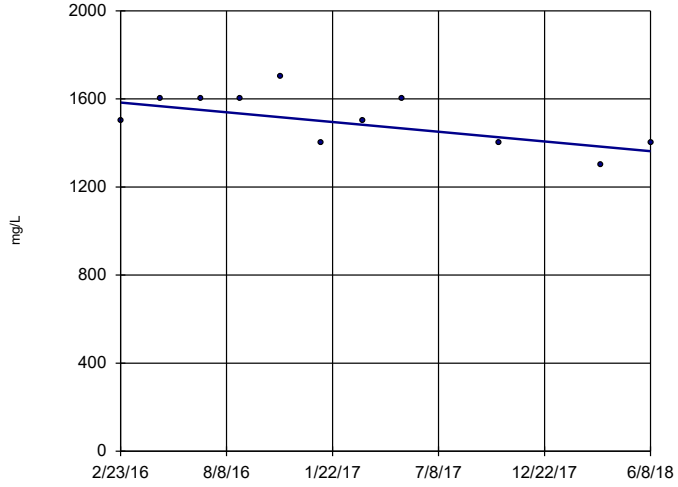
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-7



n = 11

Slope = -96.43 units per year.

Mann-Kendall statistic = -21 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

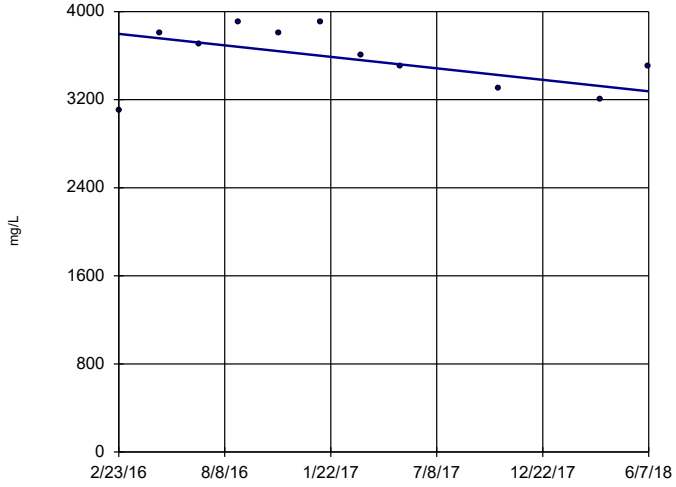
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-8



n = 11

Slope = -228.1 units per year.

Mann-Kendall statistic = -16 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

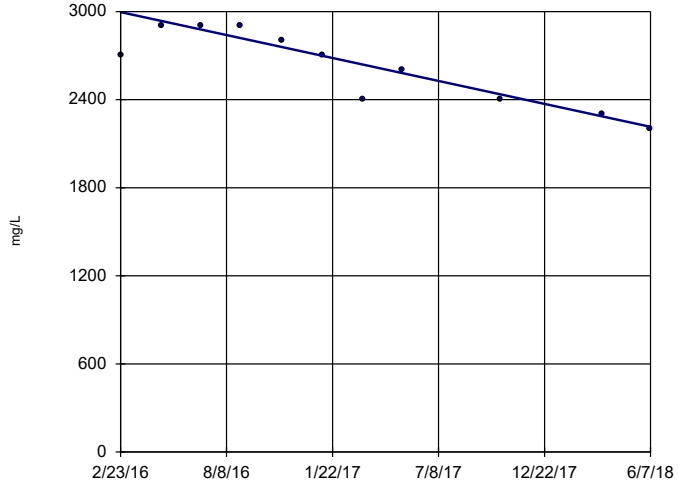
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-9



n = 11

Slope = -341.8 units per year.

Mann-Kendall statistic = -40 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

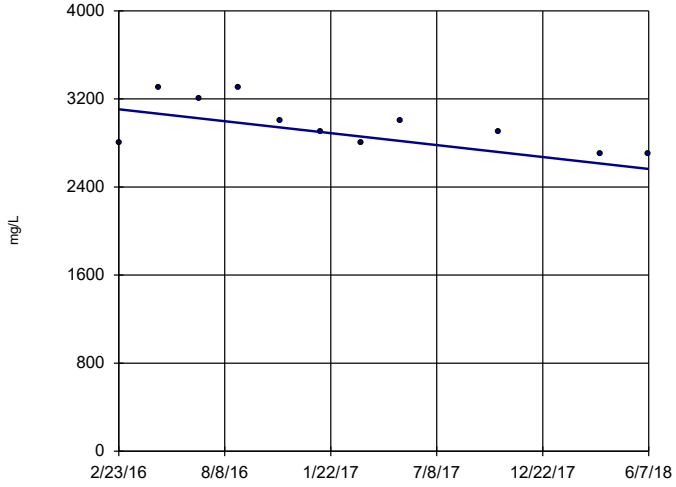
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-10



n = 11

Slope = -237 units per year.

Mann-Kendall statistic = -28 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

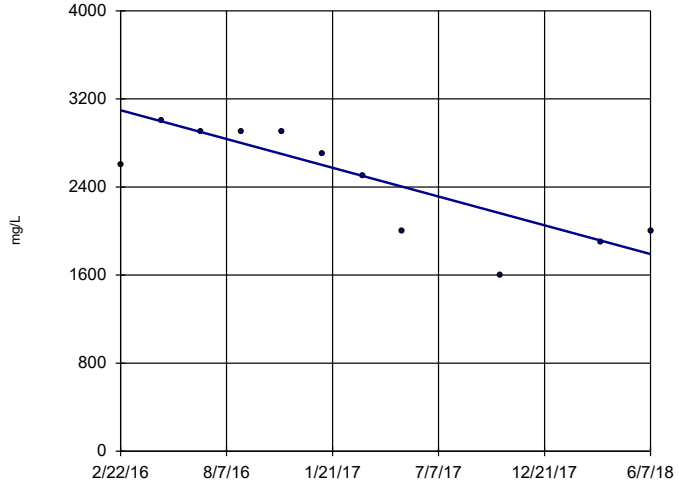
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 11

Slope = -570.3 units per year.

Mann-Kendall statistic = -35 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

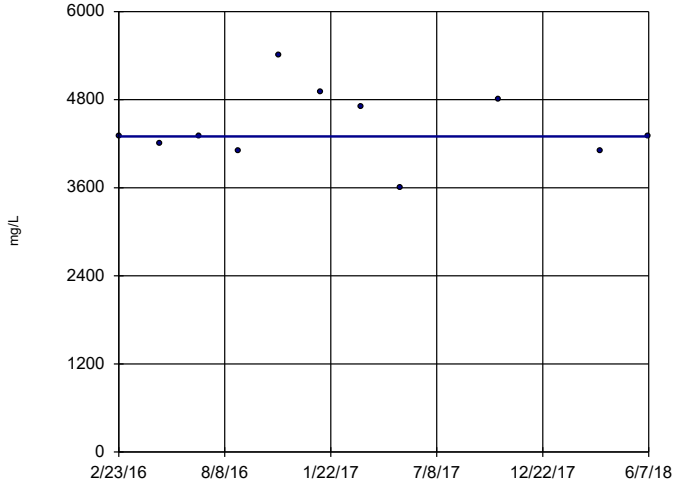
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -3 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

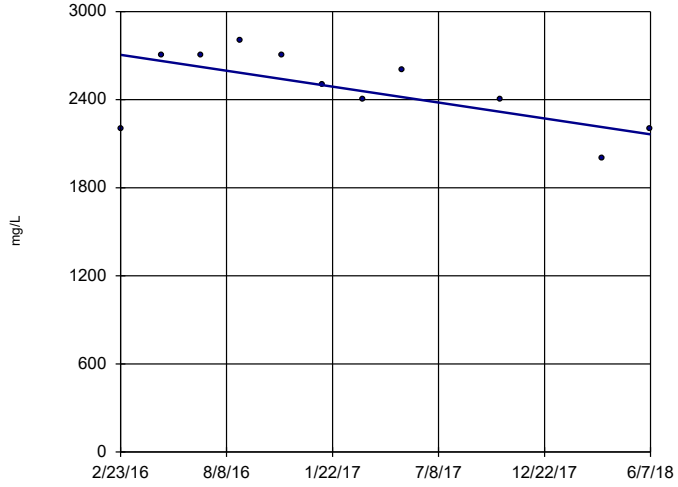
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-14



n = 11

Slope = -236.7 units per year.

Mann-Kendall statistic = -24 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

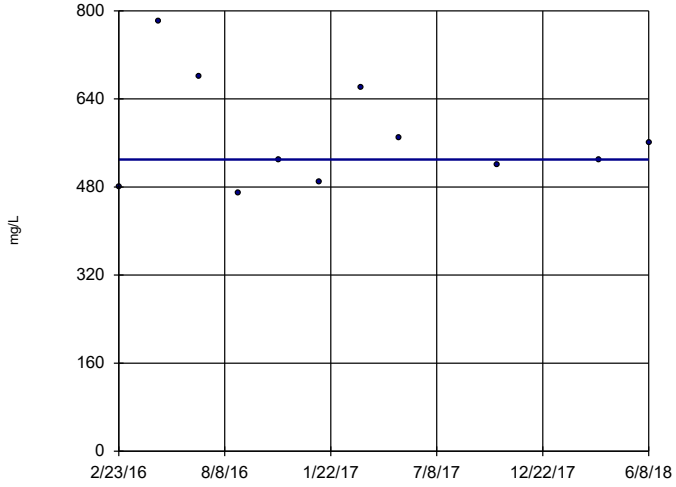
Constituent: Chloride Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-6



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

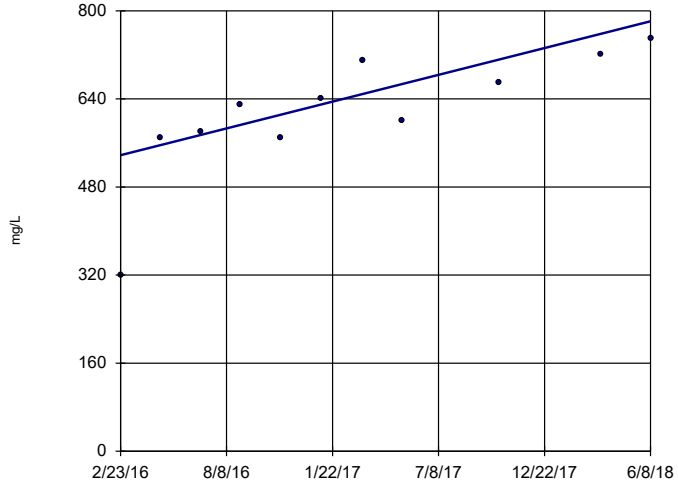
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-7



n = 11

Slope = 106.1 units per year.

Mann-Kendall statistic = 42 critical = 34

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

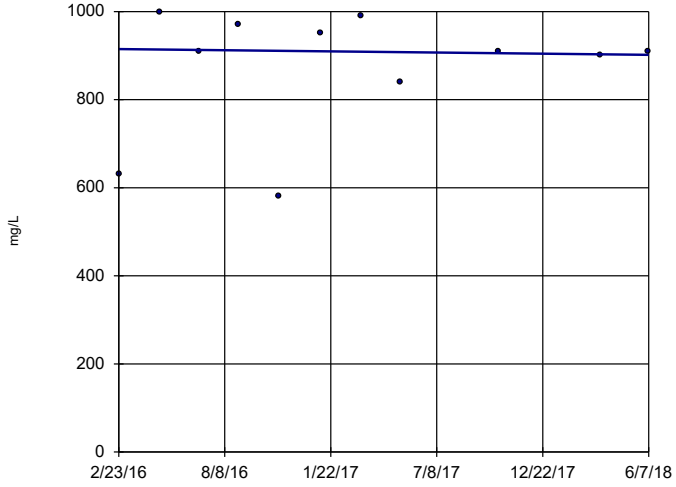
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-8



n = 11

Slope = -5.775 units per year.

Mann-Kendall statistic = -4 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

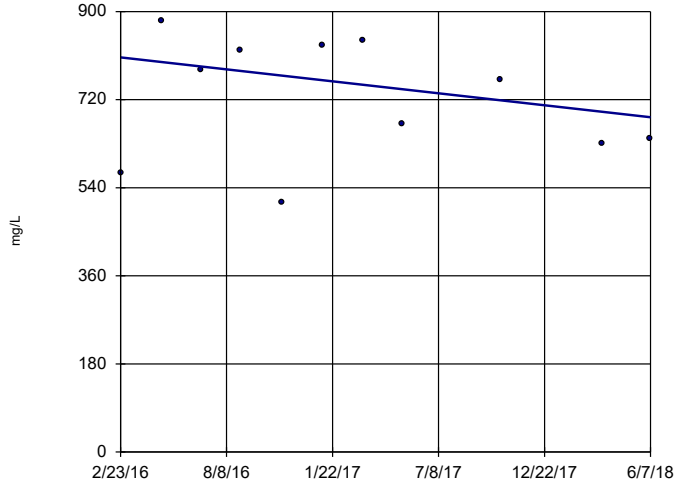
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-9



n = 11

Slope = -53.55 units per year.

Mann-Kendall statistic = -9 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

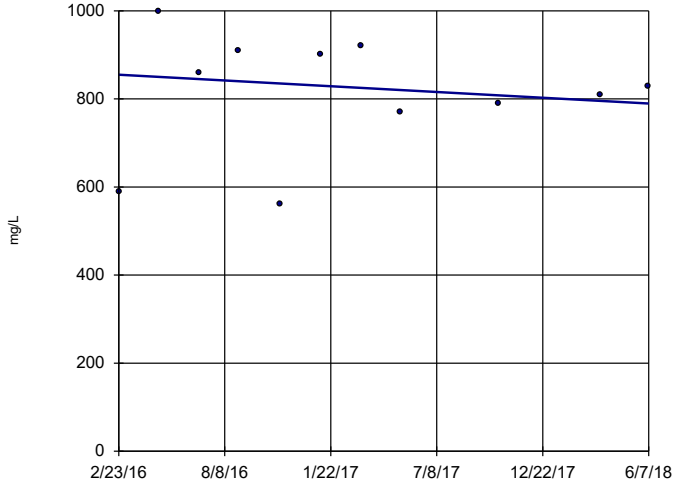
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-10



n = 11

Slope = -28.52 units per year.

Mann-Kendall statistic = -3 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

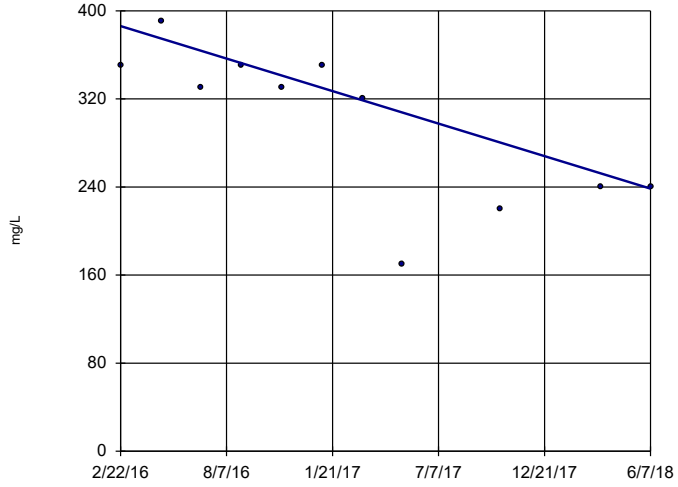
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 11

Slope = -64.46 units per year.

Mann-Kendall statistic = -32 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

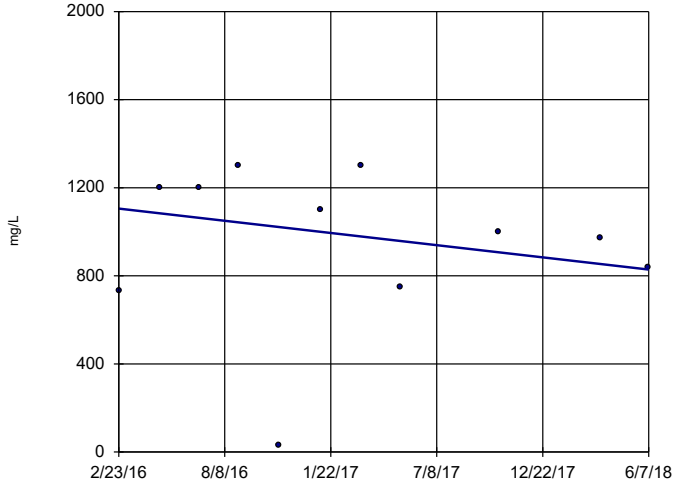
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 11

Slope = -121 units per year.

Mann-Kendall statistic = -7 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

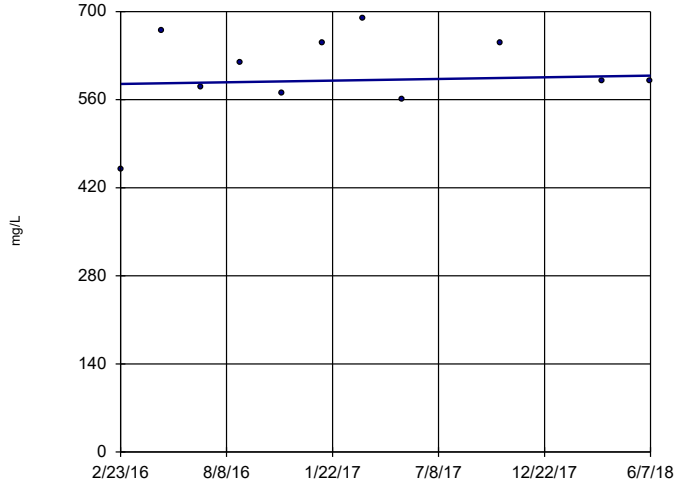
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-14



n = 11

Slope = 5.775 units per year.

Mann-Kendall statistic = 5 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

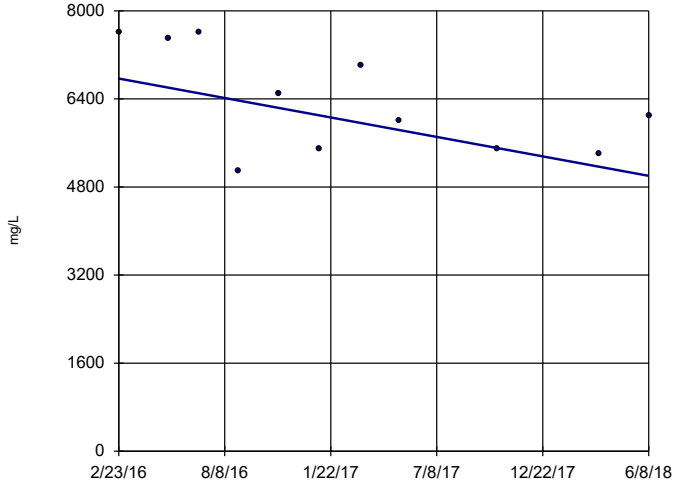
Constituent: Sulfate Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-6



n = 11

Slope = -771.1 units per year.

Mann-Kendall statistic = -23 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

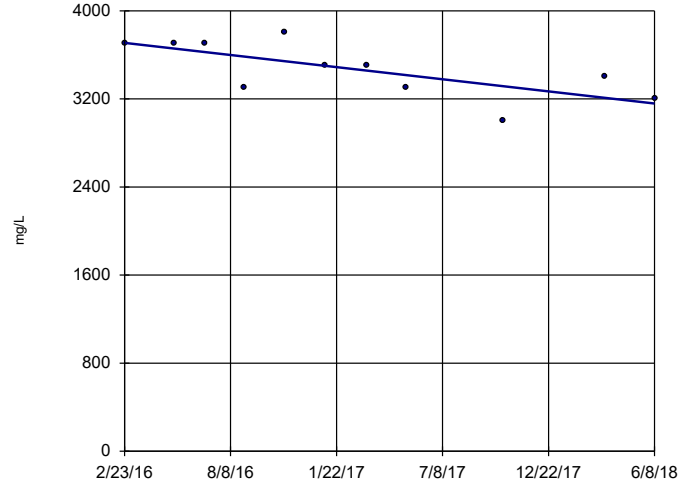
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-7



n = 11

Slope = -240.8 units per year.

Mann-Kendall statistic = -30 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

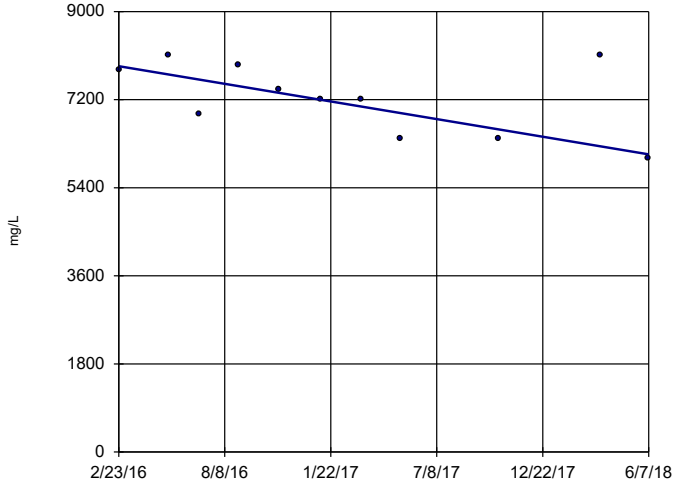
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-8



n = 11

Slope = -786.8 units per year.

Mann-Kendall statistic = -24 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

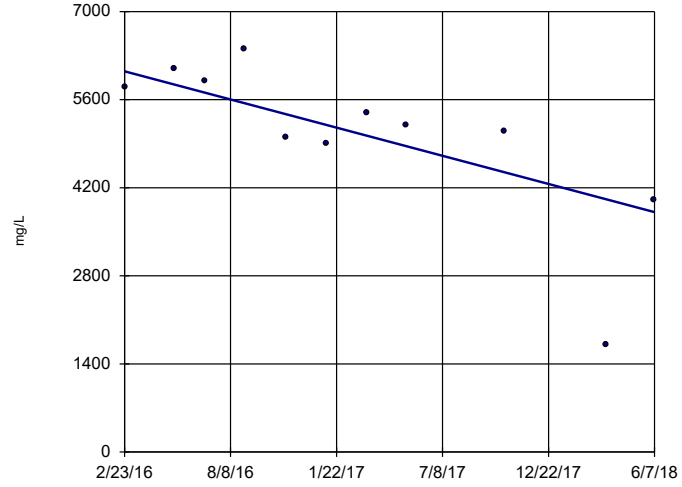
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-9



n = 11

Slope = -978.1 units per year.

Mann-Kendall statistic = -31 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

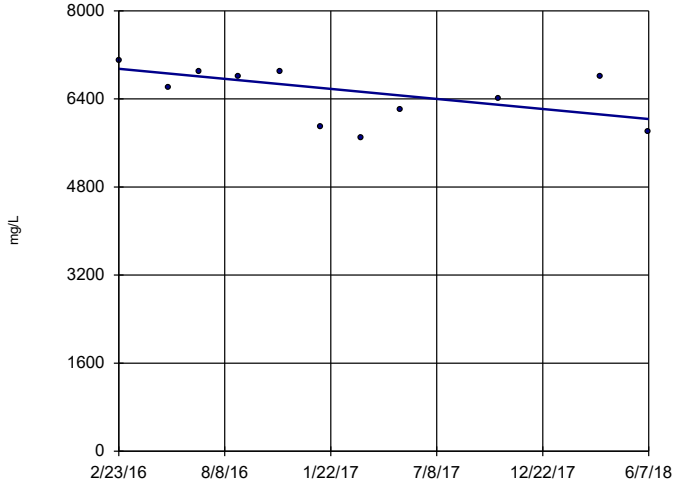
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-10



n = 11

Slope = -398.9 units per year.

Mann-Kendall statistic = -23 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

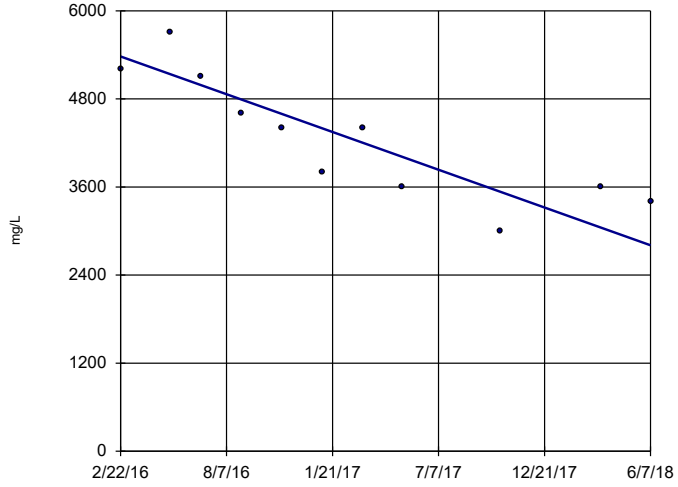
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:12 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 11

Slope = -1123 units per year.

Mann-Kendall statistic = -45 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

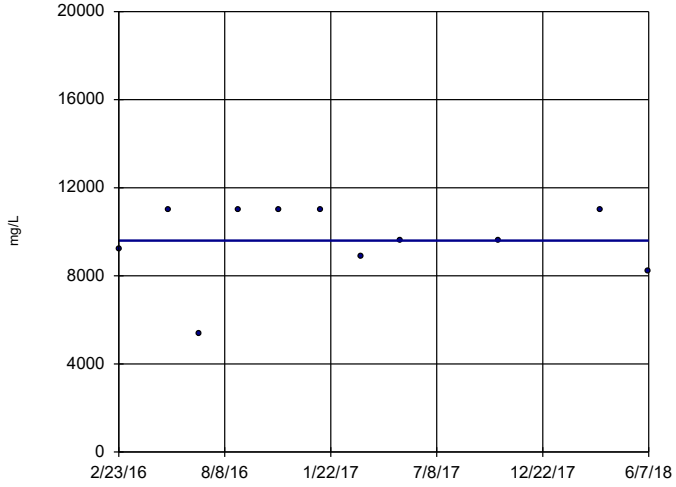
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:13 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -4 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

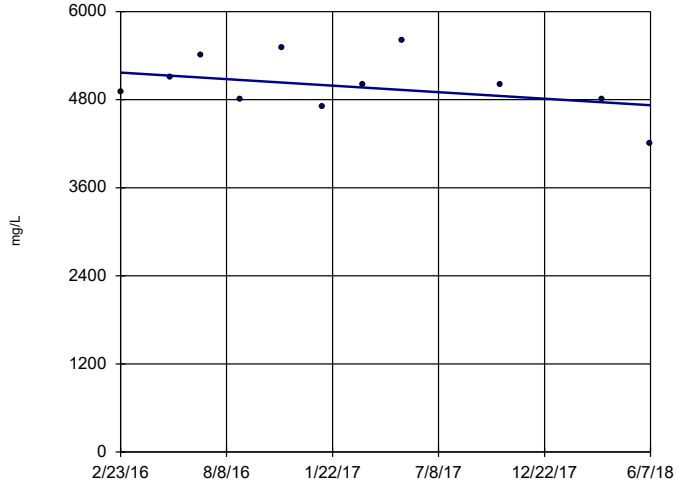
Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:13 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-14



n = 11

Slope = -194.1 units per year.

Mann-Kendall statistic = -11 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 10/9/2018 9:13 AM View: Trend Testing

Plant Smith Client: Southern Company Data: Smith CCR

Trend Test Summary Table - Significant App IV Results

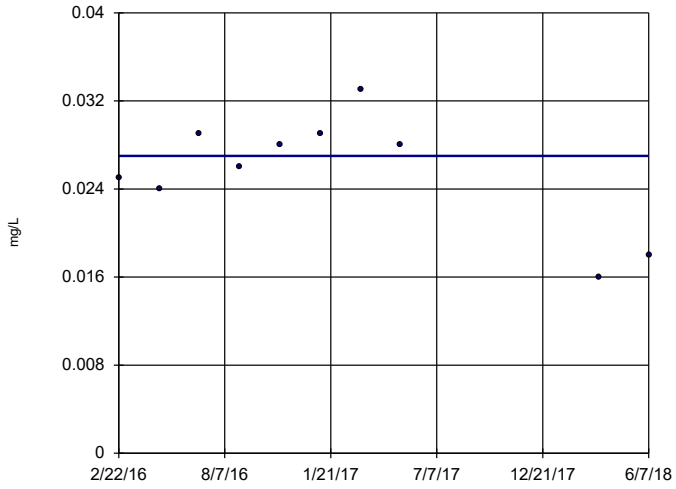
Plant Smith Client: Southern Company Data: Smith CCR Printed 10/9/2018, 9:16 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	**MW-9**	**-9.182**	**-35**	**-30**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Lithium (mg/L)	**MW-13**	**0.03842**	**31**	**30**	**Yes**	**10**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 10

Slope = 0 units per year.

Mann-Kendall statistic = -1 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

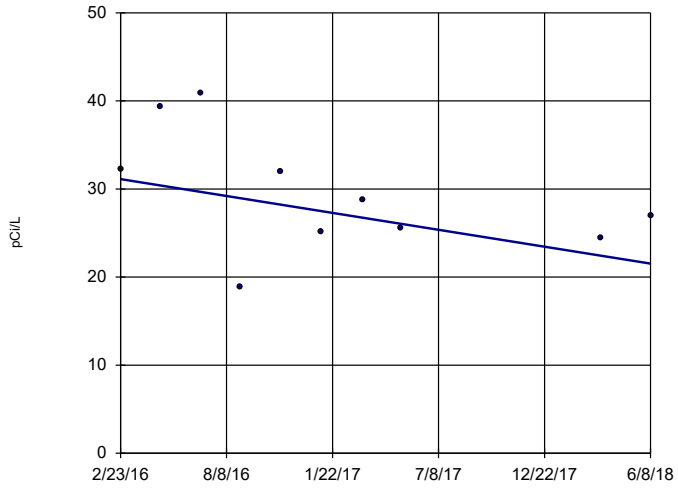
Constituent: Arsenic Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-6



n = 10

Slope = -4.185 units per year.

Mann-Kendall statistic = -17 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

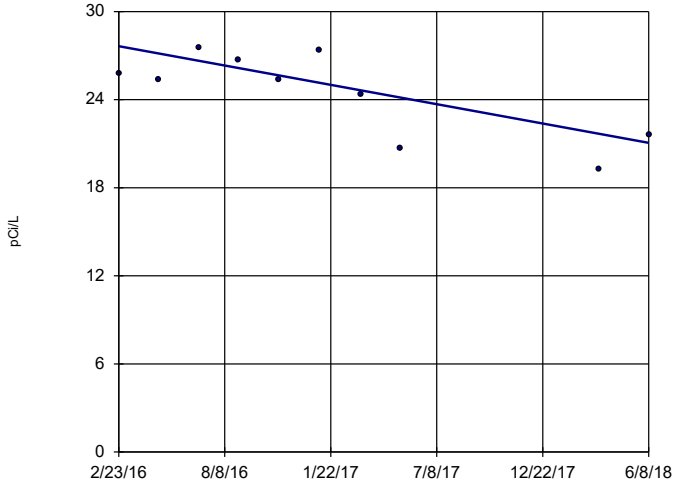
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-7



n = 10

Slope = -2.873 units per year.

Mann-Kendall statistic = -24 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

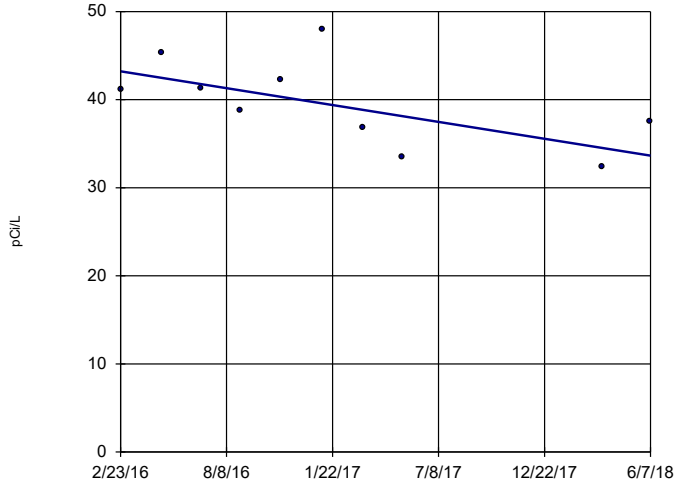
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-8



n = 10

Slope = -4.189 units per year.

Mann-Kendall statistic = -19 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

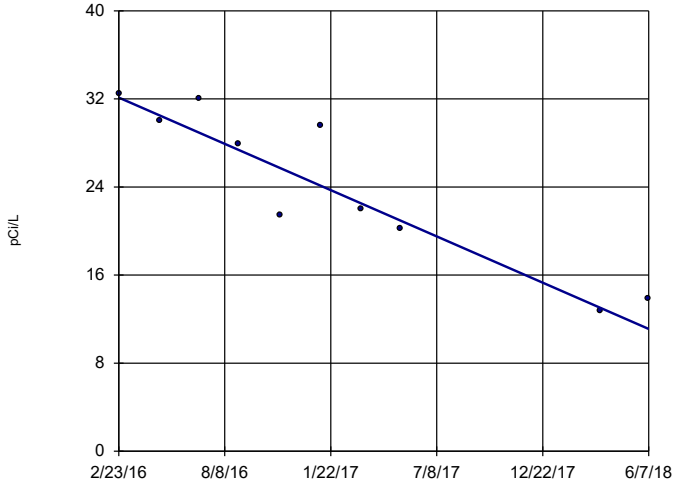
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-9



n = 10

Slope = -9.182 units per year.

Mann-Kendall statistic = -35 critical = -30

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

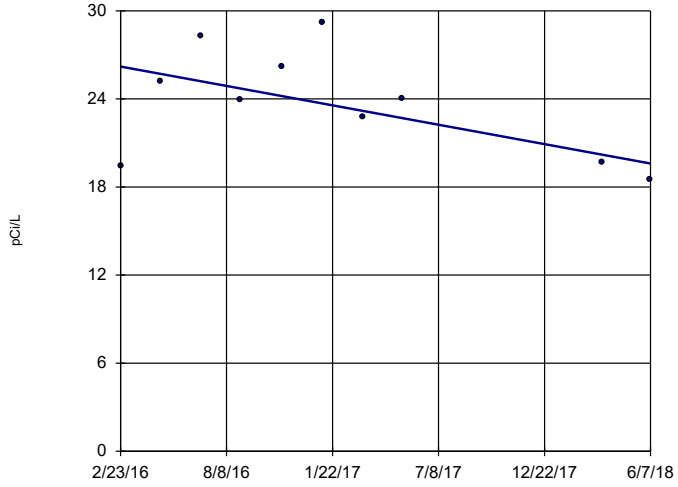
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-10



n = 10

Slope = -2.888 units per year.

Mann-Kendall statistic = -11 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

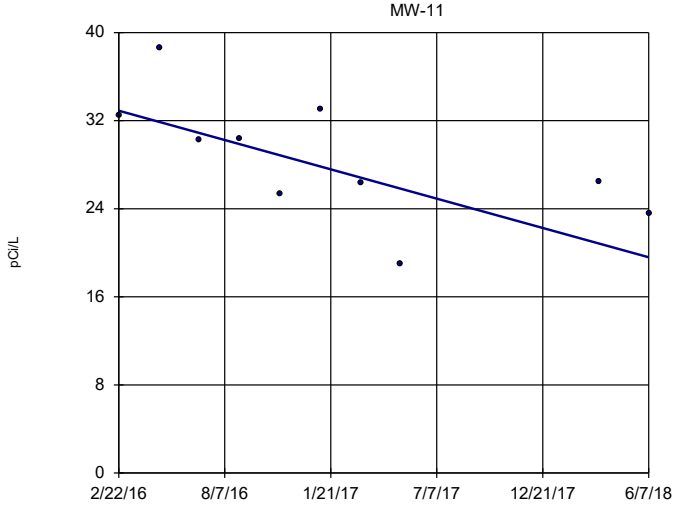
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-11



n = 10

Slope = -5.813 units per year.

Mann-Kendall statistic = -23 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

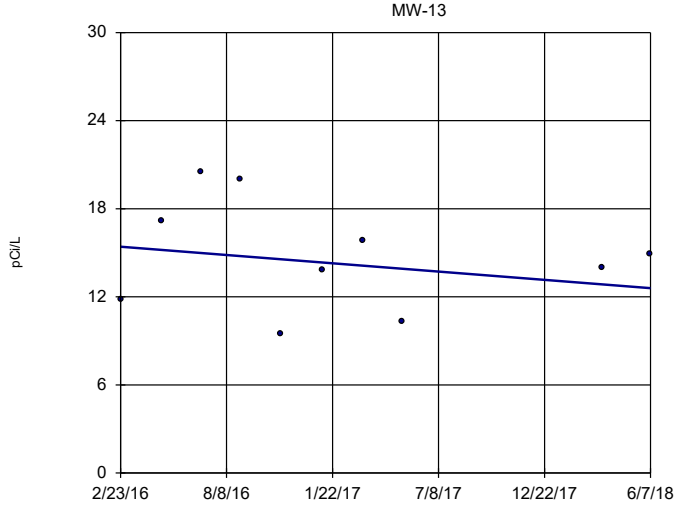
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 10

Slope = -1.233 units per year.

Mann-Kendall statistic = -5 critical = -30

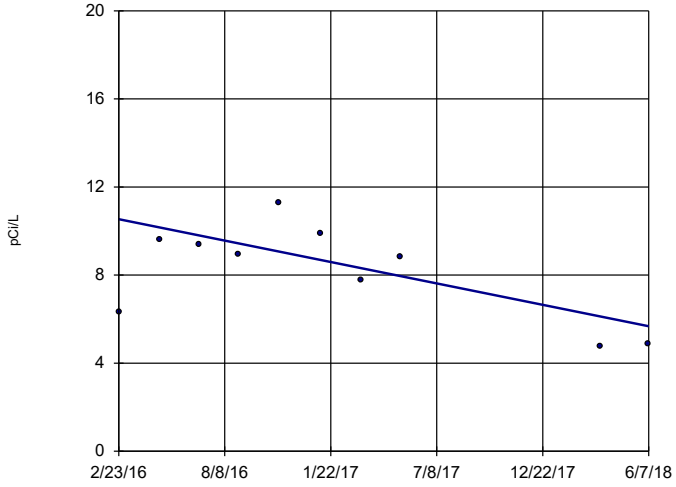
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sen's Slope Estimator

MW-14



n = 10

Slope = -2.123 units per year.

Mann-Kendall statistic = -15 critical = -30

Trend not significant at 99% confidence level (α = 0.005 per tail).

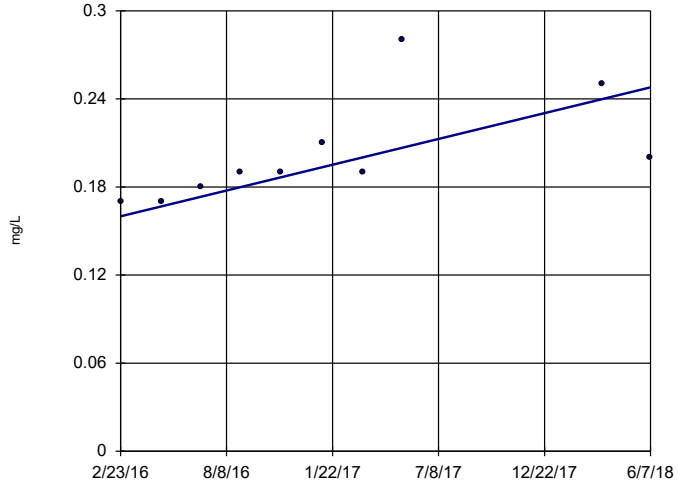
Constituent: Combined Radium 226 + 228 Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Sen's Slope Estimator

MW-13



n = 10

Slope = 0.03842 units per year.

Mann-Kendall statistic = 31 critical = 30

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 10/9/2018 9:15 AM View: Trend Tests - App IV

Plant Smith Client: Southern Company Data: Smith CCR

APPENDIX C

Alternate Source Demonstration, CCR Unit Ash Pond