Prepared for

Gulf Power Company
One Energy Place
Pensacola, Florida 32520

2018 ANNUAL GROUNDWATER MONITORING REPORT

GULF POWER COMPANY, PLANT CRIST ASH LANDFILL NO. 1

Prepared by

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CERTIFICATION STATEMENT

This *2018 Annual Groundwater Monitoring Report, Gulf Power Company – Plant Crist – Ash Landfill No. 1* 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.

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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 Crist (Site) Ash Landfill No. 1 (LF1).

Gulf Power previously installed a CCR-groundwater monitoring system around LF1 to monitor groundwater within the uppermost aquifer in the vicinity of this CCR unit. Monitoring wells in the LF1 CCR-groundwater monitoring network are listed below:

- background wells: MW-100, MW-101, MW-107, MW-108, MW-306, and MW-307; and
- downgradient wells: MW-102, MW-103, MW-104, MW-105, MW-106, MW-109, and MW-110.

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 in March 2018. During the assessment monitoring scan event, samples from monitoring wells in the certified LF1 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 October 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 LF1:

- radium 226 and 228 combined (total radium): MW-103, MW-104, and MW-110;
- mercury: MW-110; and
- cobalt: MW-104.

In accordance with the CCR Rule, Gulf Power conducted an alternate source demonstration (ASD) which documents that the total radium, mercury, and cobalt SSLs are from a source other than LF1. Accordingly, an assessment of corrective measures or remedial action will not be performed for LF1 at this time, and assessment monitoring will continue. The 2019 assessment monitoring scan event is planned for March 2019 and semi-annual assessment monitoring events are planned for June and October 2019.

Geosyntec consultants

TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1
- 1.1 Regional Geology & Hydrogeologic Setting 1
- 1.2 LF1 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 Method 7
  - 4.1.1 Assessment Monitoring Statistical Method 7
  - 4.1.2 Appendix III Constituent Statistical Method 7
- 4.2 Statistical Analyses Results 8
  - 4.2.1 Assessment Monitoring Statistical Results 8
  - 4.2.2 Appendix III Constituent Statistical Results 8

5.0 ALTERNATE SOURCE DEMONSTRATION 9

6.0 CONCLUSIONS & FUTURE ACTIONS 10

7.0 REFERENCES 11

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 Landfill No. 1
Figure 2	Well Locations – Ash Landfill No. 1
Figure 3	Potentiometric Surface Contour Map – March 12, 2018
Figure 4	Potentiometric Surface Contour Map – June 4, 2018
Figure 5	Potentiometric Surface Contour Map – October 5, 2018

LIST OF APPENDICES

Appendix A	Laboratory Analytical and Field Sampling Reports
Appendix B	Statistical Analyses
Appendix C	Alternate Source Demonstration, CCR Unit Ash Landfill No. 1

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 Crist (Site) coal combustion residuals (CCR) unit, Ash Landfill No. 1 (LF1).

The Site is located at 11999 Pate Street in Pensacola, Escambia County, Florida, and is situated on approximately 670 acres. A Site location map is provided in **Figure 1**. Site topography ranges from approximately 120 feet (ft) relative to the North American Vertical Datum of 1988 (NAVD88) on the western portions of the Site and along Pate Street to approximately 5 ft NAVD88 near Clear Creek to the north and Governor's Bayou to the east. LF1 is located on the western portion of the property. Semi-annual monitoring and reporting for LF1 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 LF1. 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 LF1 in March 2018. The assessment monitoring scan event was conducted in March 2018, followed by semi-annual assessment monitoring events in June and October 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

The Sand and Gravel Aquifer, the uppermost aquifer underlying the Site, includes Pleistocene terrace deposits, the Pleistocene Citronelle Formation, and the upper portion of the Pliocene/Miocene coarse clastics. The Sand and Gravel Aquifer has been subdivided into three major zones (listed in order from ground surface): (i) the surficial

zone; (ii) the low permeability zone; and (iii) the main producing zone (Roaza et al., 1991).

The surficial zone consists of the upper most layer of sand and gravel, although layers of silt and clay may also occur within this zone. Beneath the surficial zone is the low permeability zone. The low permeability zone is the first substantial, more regionally continuous lower permeability layer encountered within the Sand and Gravel Aquifer (Roaza et al., 1991). This layer generally consists of a poorly sorted mixture of sand, silt, and clay, although actual lithology is variable. As a semi-confining interval, the low permeability zone limits vertical groundwater flow between the surficial zone above and the main producing zone below (Roaza et al., 1991). The main producing zone is lithologically similar to the surficial zone with moderate to well sorted quartz sands and gravels with interbedded layers of sandy clay and clay. Groundwater in the main producing zone is under semi-confined conditions due to the nature of the low permeability zone that lies above and a regionally extensive confining unit that lies underneath (Richards, 2001).

The Sand and Gravel Aquifer underlies the Site (Barraclough and Marsh, 1962). Site-specific lithology in the uppermost aquifer consists primarily of silty or clayey sands interbedded with well-graded sands and gravels. Groundwater in the uppermost aquifer at the Site is generally encountered between 15 and 4 ft NAVD88 within the Sand and Gravel Aquifer in a laterally-extensive water-bearing zone of fine to coarse sand. This aquifer is considered the uppermost aquifer for groundwater monitoring purposes. LF1 CCR-groundwater monitoring wells were screened in the uppermost aquifer between approximately 11 and -28 ft NAVD88.

1.2 LF1 CCR Unit and Groundwater Monitoring System Descriptions

LF1 is an active, dry ash landfill occupying approximately 57.3 acres. Dry fly ash is conveyed and stacked in LF1.

Pursuant to the CCR Rule, Gulf Power installed a CCR-groundwater monitoring system around LF1 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 LF1. Monitoring wells in the LF1 groundwater monitoring network are as follows:

- background wells: MW-100, MW-101, MW-107, MW-108, MW-306, and MW-307; and

- downgradient wells: MW-102, MW-103, MW-104, MW-105, MW-106, MW-109, and MW-110.

Monitoring well details, including installation date, coordinates, elevations, screen interval, and designation are summarized in **Table 1**. **Figure 2** depicts the CCR-groundwater monitoring network for LF1.

2.0 GROUNDWATER MONITORING ACTIVITIES

In accordance with the CCR Rule, the following section describes CCR-groundwater monitoring-related activities performed during 2018 for LF1. Samples were collected from monitoring wells in the LF1 monitoring system shown on **Figure 2**. A summary of LF1 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

Monitoring well and piezometer installation activities were completed for LF1 in 2015 and 2016 (SC, 2018). No additional LF1 monitoring wells were installed in 2018.

2.2 Assessment Monitoring Scan

An assessment monitoring scan event for LF1 was conducted in March 2018. Samples were collected from each monitoring well in the LF1 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, cadmium, chromium, cobalt, radium 226 and 228 combined (total radium), fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium.

2.3 Assessment Monitoring Events

The first semi-annual assessment monitoring event for LF1 was performed in June 2018. The second semi-annual assessment monitoring event for LF1 was conducted in October 2018. Groundwater samples were collected from each LF1 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 LF1.

3.1 Groundwater Elevation Measurement

Prior to each 2018 CCR-sampling event, groundwater elevations were recorded from the CCR-monitoring well networks at the Site. Groundwater elevations recorded during the assessment monitoring scan and 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 October 2018, respectively. As shown on the potentiometric figures, the general direction of groundwater flow from LF1 is to the east. 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, 2017a) 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 LF1 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 analysis 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 LF1, 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.

LF1 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 LF1.

4.1 Statistical Method

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 LF1 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 LF1.

Statistical analysis of LF1 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 LF1 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 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 Method

Statistical analysis of Appendix III constituents was performed to evaluate if concentrations had returned to background values. Statistical tests used to evaluate the CCR-groundwater monitoring data at LF1 consisted of interwell prediction limits combined with a 1-of-2 resample strategy for each of the Appendix III constituents. Interwell prediction limits pool upgradient well data to establish a background

prediction limit for an individual constituent, and the most recent sample from each downgradient well is compared to the background prediction limit for each parameter. 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 LF1 was analyzed in accordance with the SAP. Appendix III statistical analysis was performed to evaluate if constituents in LF1 groundwater have returned to background levels. Appendix IV constituents were evaluated to assess if LF1 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 LF1:

- total radium at MW-103, MW-104, and MW-110;
- mercury at MW-110; and
- cobalt at MW-104.

In accordance with the CCR Rule, a notification identifying the SSLs for total radium, mercury, and cobalt was prepared for LF1 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 LF1. 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, mercury, and cobalt. The complete ASD report is provided in **Appendix C**. The key conclusions of the ASD are briefly summarized below:

- Naturally-occurring uranium and thorium, which decays to radium, was documented at the Site in an investigation by LBG-Guyton (1998) and concurred with by FDEP (1999). The naturally-occurring parent radionuclides and subsequent decay to total radium accounts for the periodic GWPS exceedances observed in CCR-groundwater monitoring wells at LF1. Therefore, the data indicate that total radium is leaching into groundwater from naturally-occurring radioactive elements in Site soils causing the SSLs of total radium in groundwater.

- The presence of naturally-occurring mercury observed at the Site and documented in investigations by Geosyntec (2014 and 2017), and concurred with by FDEP (2015 and 2017b), account for the periodic GWPS exceedances observed in MW-110 for LF1. Therefore, the mercury observed in MW-110 is leached into groundwater from naturally-occurring sediment deposits in Site soil causing the SSLs of mercury in groundwater.

- The widespread presence of cobalt in subsurface soils across the Site, including background locations and locations downgradient of LF1, indicate cobalt concentrations in the CCR-groundwater monitoring system at LF1 are naturally occurring. The presence of naturally-occurring cobalt and its potential to leach into groundwater is documented in the ASD. Therefore, the cobalt observed in MW-104 is leached into groundwater from naturally-occurring cobalt resulting in the cobalt SSLs.

6.0 CONCLUSIONS & FUTURE ACTIONS

In accordance with the CCR Rule, Gulf Power implemented assessment monitoring in March 2018 for LF1. SSLs of select Appendix IV constituents (i.e., total radium, mercury, and cobalt) relative to GWPSs were identified at LF1 during the first semi-annual assessment monitoring event in 2018. Statistical analysis of Appendix III constituents indicated that concentrations downgradient of LF1 have not returned to background levels. In accordance with the CCR Rule, Gulf Power prepared ASDs for the SSLs identified at LF1 which documents that another source caused the SSLs. Therefore, an assessment of corrective measures or remedial action will not be performed for LF1 at this time, and assessment monitoring at LF1 will continue 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 June and October 2019.

7.0 REFERENCES

Barraclough, J.T., and Marsh, O.T., 1962, *Aquifers and quality of ground water along the Gulf Coast of Florida: Florida Geological Survey Report of Investigations No. 29, 28p.*

Florida Department of Environmental Protection (FDEP), 1999. *Summary of the February 10,1999 Meeting with Gulf Power.* February.

Florida Department of Environmental Protection (FDEP), 2015. *Site Assessment Report, Gulf Power Crist Plant, Escambia County, Florida.* May.

Florida Department of Environmental Protection (FDEP), 2017a. *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), 2017b. *Gulf Power Crist Plant Surface Water Study.* July.

Geosyntec Consultants, 2014. *Assessment Report, James F. Crist Generating Plant.* December.

Geosyntec Consultants, 2017. *Surface Water Sampling Summary, James F. Crist Generating Plant.* June.

Groundwater Stats Consulting (GSC), 2017. *Gulf Power Company Plant Crist Ash Landfill No. 1, Ash Landfill No. 2, and Gypsum Storage Area Statistical Analysis Plan*. October.

LBG-Guyton Associates, 1998. *Investigation for Potential Sources of Elevated Radiological Activity in Two Monitoring Wells at Crist Electric Generating Plant, James F. Crist Generating Plant.* July.

Richards, C.J., 2001, *Results of the ECUA Beulah Constant Rate Aquifer Test, Sand-and-Gravel Aquifer, Escambia County Florida.* Northwest Florida Water Management District.

Roaza, H.P., Pratt, T.R., Richards, C.J., Johnson, J.L. and Wagner, J.R., 1991, *Conceptual Model of the Sand-and-Gravel Aquifer, Escambia County, Florida:*

Northwest Florida Water Management District, Water Resources Special Report 91-6, 117 p.

Southern Company (SC), 2018. *2017 Annual Groundwater Monitoring and Corrective Action Report. Gulf Power Company – Plant Crist Ash Landfill No1, Ash Landfill No.2, and Gypsum Storage Area*. 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 2011.

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 Crist - LF1, Gulf Power Company, Pensacola, Florida

Well Name	Installation Date	Northing	Easting	Ground Elevation	Top of Casing Elevation	Top of Screen Elevation	Bottom of Screen Elevation	Designation
MW-100	11/11/2015	578116.11	1107316.00	99.84	103.03	-5.16	-15.16	Upgradient
MW-101	11/10/2015	577158.45	1107724.27	105.1	108	-1.9	-11.9	Upgradient
MW-102	11/10/2015	576886.86	1108472.89	112.59	112.17	2.59	-7.41	Downgradient
MW-103	11/7/2015	577354.11	1109233.05	121.28	120.79	11.28	1.28	Downgradient
MW-104	11/4/2015	578494.34	1108915.77	65.15	68.25	-4.85	-14.85	Downgradient
MW-105	11/17/2015	579092.61	1108688.61	27.39	30.53	-2.61	-12.61	Downgradient
MW-106	11/3/2015	578765.08	1107895.05	74.8	77.99	-5.2	-15.2	Downgradient
MW-107	11/17/2015	577201.66	1107442.83	111.4	114.71	1.4	-8.6	Upgradient
MW-108	11/17/2015	576208.36	1107577.06	80.51	83.54	-4.49	-14.49	Upgradient
MW-109	11/20/2015	577624.83	1109293.64	116.82	119.85	-2.68	-12.68	Downgradient
MW-110	11/21/2015	578095.94	1109139.45	87.3	90.33	-17.7	-27.7	Downgradient
MW-306	11/19/2015	578417.11	1106200.44	67.61	70.56	-12.39	-22.39	Upgradient
MW-307	11/19/2015	578209.77	1106865.99	101.11	104.18	-8.89	-18.89	Upgradient

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.

TABLE 2: SUMMARY OF 2018 GROUNDWATER SAMPLING EVENTS
Plant Crist - LF1, Gulf Power Company, Pensacola, Florida

Well Name	2018 Assessment Monitoring Scan	2018 Assessment Monitoring Event 1	2018 Assessment Monitoring Event 2
MW-100	3/12/2018	6/5/2018	10/16/2018
MW-101	3/14/2018	6/10/2018	10/18/2018
MW-102	3/14/2018	6/11/2018	10/19/2018
MW-103	3/14/2018	6/11/2018	10/18/2018
MW-104	3/14/2018	6/10/2018	10/18/2018
MW-105	3/14/2018	6/10/2018	10/18/2018
MW-106	3/14/2018	6/10/2018	10/18/2018
MW-107	3/12/2018	6/5/2018	10/16/2018
MW-108	3/12/2018	6/5/2018	10/16/2018
MW-109	3/14/2018	6/11/2018	10/18/2018
MW-110	3/14/2018	6/11/2018	10/18/2018
MW-306	3/12/2018	6/6/2018	10/17/2018
MW-307	3/12/2018	6/6/2018	10/17/2018

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 Crist - LF1, Gulf Power Company, Pensacola, 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-100	Background	3/12/2018	0.001 U	0.00046 U	0.017	0.00034 U	0.021 U	0.00034 U	0.88	5.3	0.0011 U	0.00055 I	0.933	0.032 U	0.00035 U	0.0011 I	0.00007 U	0.00085 U	4.85	0.00046 I	1.4 U	18	0.000085 U
MW-101	Background	3/14/2018	0.001 U	0.00046 U	0.0089	0.00034 U	0.021 U	0.00034 U	0.49	5.2	0.0011 U	0.0004 U	0.614	0.12	0.00035 U	0.0011 U	0.000093 I V	0.00085 U	5.14	0.00067 I V	1.4 U	8	0.000085 U
MW-107	Background	3/12/2018	0.001 U	0.00046 U	0.013	0.00034 U	0.021 U	0.00034 U	0.49	6.1	0.0011 U	0.00055 I	1.09	0.032 U	0.00035 U	0.0014 I	0.00007 U	0.00085 U	4.81	0.00064 I	1.4 U	14	0.000085 U
MW-108	Background	3/12/2018	0.001 U	0.00046 U	0.01	0.00034 U	0.021 U	0.00034 U	1.4	5.9	0.0011 U	0.0004 U	1.97	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	4.81	0.00047 I	2.6 I	3.4 U	0.000085 U
MW-306	Background	3/12/2018	0.001 U	0.00046 U	0.013	0.00034 U	0.021 U	0.00034 U	0.59	5.6	0.0011 U	0.00044 I	0.783	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	5.07	0.00026 I	1.4 U	3.4 U	0.000085 U
MW-307	Background	3/12/2018	0.001 U	0.00046 U	0.015	0.00034 U	0.021 U	0.00034 U	0.71	4	0.0011 U	0.0004 U	0.848	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	5.6	0.00024 U	1.4 U	3.4 U	0.000085 U
MW-102	Downgradient	3/14/2018	0.001 U	0.00046 U	0.0084	0.00034 U	0.021 U	0.00034 U	0.63	5.2	0.0011 U	0.0004 U	1.64	0.032 U	0.00035 U	0.0011 U	0.000094 I V	0.00085 U	5.08	0.001 I V	1.4 U	14	0.000085 U
MW-103	Downgradient	3/14/2018	0.001 U	0.00046 U	0.052	0.00034 U	0.32	0.00034 U	3.9	7.7	0.0011 U	0.0004 U	7.02	0.032 U	0.00035 U	0.002 I	0.00012 I V	0.00085 U	4.89	0.0032	38	66	0.000085 U
MW-104	Downgradient	3/14/2018	0.001 U	0.0027	0.025	0.0011 I	11	0.00052 I	55	160	0.0023 I	0.014	13.1	0.3	0.0023	0.028	0.0011	0.00085 U	4.2	0.0057	540	1100	0.00021 I
MW-105	Downgradient	3/14/2018	0.001 U	0.0039	0.038	0.00034 U	0.7	0.00034 U	62	45	0.0022 I	0.0004 U	2.82	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.0054 I	6.29	0.0006 I V	22	300	0.000085 U
MW-106	Downgradient	3/14/2018	0.001 U	0.00046 U	0.0096	0.00034 U	0.021 U	0.00034 U	0.47	3.7	0.0011 U	0.00044 I	0.789	0.032 U	0.00035 U	0.0011 U	0.00008 I V	0.00085 U	5.28	0.00024 U	1.4 U	3.4 U	0.000085 U
MW-109	Downgradient	3/14/2018	0.001 U	0.00046 U	0.017	0.00034 U	0.021 U	0.00034 U	3.1	6.9 V	0.0011 U	0.0038	1.99	0.032 U	0.00035 U	0.0059	0.000097 I V	0.00085 U	4.71	0.00024 U	9.7	12	0.000085 U
MW-110	Downgradient	3/14/2018	0.001 U	0.00056 I	0.036	0.00034 U	4.6	0.00034 U	35	140	0.0011 U	0.012	7.06	0.032 U	0.00035 U	0.012	0.0059	0.00085 U	4.75	0.0038	270	660	0.00029 I
Assessment Monitoring Event 1																							
MW-100	Background	6/5/2018	0.001 U	0.00046 U	0.018	0.00034 U	0.021 U	0.00034 U	0.9	5.3	0.0011 U	0.00051 I	0.713	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	4.92	0.00049 I V	1.4 U	10	0.000085 U
MW-101	Background	6/10/2018	0.001 U	0.00046 I	0.0092	0.00034 U	0.021 U	0.00034 U	0.39	5.2	0.0011 U	0.0004 U	0.959	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	5.12	0.00028 I	1.5 I	8	0.000085 U
MW-107	Background	6/5/2018	0.001 U	0.00046 U	0.014	0.00034 U	0.021 U	0.00034 U	0.49	5.5	0.0011 U	0.00052 I	0.927	0.032 U	0.00035 U	0.0012 I	0.00007 U	0.00088 I	5.04	0.00098 I V	1.4 U	3.4 U	0.000085 U
MW-108	Background	6/5/2018	0.001 U	0.00046 U	0.011	0.00034 U	0.021 U	0.00034 U	1.2	6.5	0.0011 U	0.0004 U	2.17	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	4.9	0.00065 I V	2.6 I	14	0.000085 U
MW-306	Background	6/6/2018	0.001 U	0.00046 U	0.014	0.00034 U	0.021 U	0.00034 U	0.59	5.6	0.0011 U	0.0004 I	1.08	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	5.09	0.00025 I V	1.4 U	20	0.000085 U
MW-307	Background	6/6/2018	0.001 U	0.00046 U	0.017	0.00034 U	0.021 U	0.00034 U	0.68	4.1	0.0011 U	0.00048 I	0.78	0.032 U	0.00035 U	0.0021 I	0.00007 U	0.00085 U	5.58	0.00026 I V	1.4 U	16	0.000085 U
MW-102	Downgradient	6/11/2018	0.001 U	0.00046 U	0.0089	0.00034 U	0.021 U	0.00034 U	0.55	4.9	0.0011 U	0.0004 U	1.51	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	4.81	0.00028 I	1.7 I	8	0.000085 U
MW-103	Downgradient	6/11/2018	0.001 U	0.00046 U	0.053	0.00034 U	0.26	0.00034 U	3.5	8	0.0011 U	0.0004 U	5.54	0.032 U	0.00035 U	0.0015 I	0.00007 U	0.00085 U	5.02	0.003	34	96	0.000085 U
MW-104	Downgradient	6/10/2018	0.001 U	0.0047	0.025	0.0011 I	12	0.00049 I	67	190	0.0022 I	0.029	19.1	0.38	0.0024	0.019	0.0014	0.00085 U	3.97	0.015	760	1500	0.00033 I
MW-105	Downgradient	6/10/2018	0.001 U	0.0034	0.055	0.00034 U	2.4	0.00034 U	86	140	0.002 I	0.0004 U	6.2	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.0035 I	5.96	0.00043 I	96	560	0.000085 U
MW-106	Downgradient	6/10/2018	0.001 U	0.00046 U	0.0089	0.00034 U	0.066	0.00034 U	0.39	3.6	0.0011 U	0.0004 I	0.852	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.00085 U	4.99	0.00024 U	1.4 I	6	0.000085 U
MW-109	Downgradient	6/11/2018	0.001 U	0.00046 U	0.016	0.00034 U	0.11	0.00034 U	2.6	6	0.0011 U	0.0044	1.59	0.032 U	0.00035 U	0.0042 I	0.00007 U	0.00085 U	4.78	0.00024 U	10	26	0.000085 U
MW-110	Downgradient	6/11/2018	0.001 U	0.0005 I	0.036	0.00034 U	4.2	0.00034 U	30	140	0.0011 U	0.0096	7.06	0.04 I	0.00035 U	0.009	0.0042	0.00085 U	4.77	0.0037	270	670	0.00029 I
Assessment Monitoring Event 2																							
MW-100	Background	10/16/2018	0.001 U	0.00046 U	0.017	0.00034 U	0.021 U	0.00034 U	0.86	5.5	0.0011 U	0.00058 I	2.14	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.002 U	4.93	0.00071 U	1.4 U	32	0.000085 U
MW-101	Background	10/18/2018	0.001 U	0.00046 U	0.0089	0.00034 U	0.081	0.00034 U	0.41	5.2	0.0011 U	0.0004 U	0.944	0.032 U	0.00035 U	0.0013 I	0.00007 U	0.002 U	4.97	0.00071 U	1.4 U	28	0.000085 U
MW-107	Background	10/16/2018	0.001 U	0.00046 U	0.011	0.00034 U	0.021 U	0.00034 U	0.42	5.1	0.0011 U	0.00045 I	1.07	0.032 U	0.00035 U	0.0015 I	0.00007 U	0.002 U	4.98	0.00071 U	1.4 U	12	0.000085 U
MW-108	Background	10/16/2018	0.001 U	0.00046 U	0.011	0.00034 U	0.021 U	0.00034 U	1.4	5.9	0.0011 U	0.0004 U	2.2	0.032 U	0.00035 U	0.0013 I	0.00007 U	0.002 U	4.81	0.00071 U	2.8 I	6	0.000085 U
MW-306	Background	10/17/2018	0.001 U	0.00046 U	0.012	0.00034 U	0.021 U	0.00034 U	0.54	5.5	0.0011 U	0.0004 U	1.19	0.032 U	0.00035 U	0.0011 U	0.00007 U	0.002 U	4.99	0.00071 U	1.4 U	44	0.000085 U
MW-307	Background	10/17/2018	0.001 U	0.00046 U	0.016	0.00034 U	0.021 U	0.00034 U	0.66	3.7	0.0011 U	0.00043 I	0.88	0.032 U	0.00035 U	0.0012 I	0.00007 U	0.002 U	5.54	0.00071 U	1.4 U	44	0.000085 U
MW-102	Downgradient	10/19/2018	--	0.00046 U	0.0085	0.00034 U	0.34	0.00034 U	0.37	6.7	0.0011 U	0.0004 U	1	0.032 U	0.00035 U	0.0012 I	0.000094 I	0.002 U	5.15	0.00071 U	3.4 I	54	0.000085 U
MW-103	Downgradient	10/18/2018	--	0.00046 U	0.052	0.00034 U	0.25	0.00034 U	3.1	12	0.0011 U	0.0004 U	5.59	0.032 U	0.00035 U	0.0017 I	0.00007 U	0.002 U	4.93	0.0016	31	64	0.000085 U
MW-104	Downgradient	10/18/2018	--	0.0019	0.021	0.00084 I	9.6	0.00044 I	52	100	0.0016 I	0.016	12.1	0.26	0.002	0.022	0.00087	0.002 U	4.12	0.0049	460	860	0.00021 I
MW-105	Downgradient	10/18/2018	--	0.0044	0.035	0.00034 U	0.43	0.00034 U	63	32	0.0029	0.0004 U	2.89	0.04 I	0.00035 U	0.0011 U	0.00007 U	0.0032 I	6.19	0.00071 U	6.6	250	0.000085 U
MW-106	Downgradient	10/18/2018	--	0.00046 U	0.0096	0.00034 U	0.067	0.00034 U	0.47	5	0.0011 U	0.0004 U	1.05	0.032 U	0.00039 I	0.0012 I	0.00007 U	0.002 U	5.07	0.00071 U	1.4 U	68	0.000085 U
MW-109	Downgradient	10/18/2018	--	0.00046 U	0.019	0.00034 U	0.15	0.00034 U	2.8	7.5	0.0011 U	0.0036	1.77	0.032 U	0.00035 U	0.0062	0.00007 U	0.002 U	4.76	0.00071 U	8.1	34	0.000085 U
MW-110	Downgradient	10/18/2018	--	0.00046 U	0.035	0.00034 U	4.3	0.00034 U	38	160	0.0011 U	0.025	7.22	0.04 I	0.00035 U	0.011	0.0034	0.002 U	4.73	0.0033	280	750	0.00031 I

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 Crist, Gulf Power Company, Pensacola, Florida

Monitoring Well	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
MW-100	578116.11	1107316.00	103.03	3/12/2018	89.92	13.11
MW-101	577158.45	1107724.27	108	3/12/2018	95.39	12.61
MW-102	576886.86	1108472.89	112.17	3/12/2018	101.67	10.50
MW-103	577354.11	1109233.05	120.79	3/12/2018	111.87	8.92
MW-104	578494.34	1108915.77	68.25	3/12/2018	59.08	9.17
MW-105	579092.61	1108688.61	30.53	3/12/2018	21.59	8.94
MW-106	578765.08	1107895.05	77.99	3/12/2018	66.63	11.36
MW-107	577201.66	1107442.83	114.71	3/12/2018	100.97	13.74
MW-108	576208.36	1107577.06	83.54	3/12/2018	68.91	14.63
MW-109	577624.83	1109293.64	119.85	3/12/2018	111.17	8.68
MW-110	578095.94	1109139.45	90.33	3/12/2018	81.48	8.85
MW-200	581703.17	1108041.01	20.13	3/12/2018	17.46	2.67
MW-201	581138.29	1108637.91	52.12	3/12/2018	48.5	3.62
MW-202	580559.03	1109045.35	55.45	3/12/2018	51.41	4.04
MW-203	580100.37	1108497.51	50.6	3/12/2018	45.03	5.57
MW-204	580325.06	1107978.45	19.47	3/12/2018	13.21	6.26
MW-205	581076.41	1107907.46	20.28	3/12/2018	16.17	4.11
MW-206	581888.48	1108613.37	29.11	3/12/2018	26.74	2.37
MW-300	579587.59	1106288.51	68.8	3/12/2018	57.16	11.64
MW-301	579282.59	1106601.15	80.51	3/12/2018	68.18	12.33
MW-302	579752.44	1107202.72	57.97	3/12/2018	46.71	11.26
MW-303	580183.01	1107460.45	44.97	3/12/2018	35.64	9.33
MW-304	580661.43	1106931.50	41.82	3/12/2018	34.42	7.40
MW-305	580179.89	1106680.03	58.57	3/12/2018	49.18	9.39
MW-306	578417.11	1106200.44	70.56	3/12/2018	55.45	15.11
MW-307	578209.77	1106865.99	104.18	3/12/2018	90.04	14.14
MW-308	580349.51	1107304.17	42.65	3/12/2018	33.8	8.85

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 Crist, Gulf Power Company, Pensacola, Florida

Monitoring Well	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
MW-100	578116.11	1107316.00	103.03	6/4/2018	90.61	12.42
MW-101	577158.45	1107724.27	108	6/4/2018	96.62	11.38
MW-102	576886.86	1108472.89	112.17	6/4/2018	102.01	10.16
MW-103	577354.11	1109233.05	120.79	6/4/2018	112.09	8.70
MW-104	578494.34	1108915.77	68.25	6/4/2018	59.56	8.69
MW-105	579092.61	1108688.61	30.53	6/4/2018	22.4	8.13
MW-106	578765.08	1107895.05	77.99	6/4/2018	67.41	10.58
MW-107	577201.66	1107442.83	114.71	6/4/2018	102.01	12.70
MW-108	576208.36	1107577.06	83.54	6/4/2018	70.22	13.32
MW-109	577624.83	1109293.64	119.85	6/4/2018	111.52	8.33
MW-110	578095.94	1109139.45	90.33	6/4/2018	81.83	8.50
MW-200	581703.17	1108041.01	20.13	6/4/2018	19.70	0.43
MW-201	581138.29	1108637.91	52.12	6/4/2018	48.99	3.13
MW-202	580559.03	1109045.35	55.45	6/4/2018	51.97	3.48
MW-203	580100.37	1108497.51	50.6	6/4/2018	45.88	4.72
MW-204	580325.06	1107978.45	19.47	6/4/2018	14.28	5.19
MW-205	581076.41	1107907.46	20.28	6/4/2018	17.06	3.22
MW-206	581888.48	1108613.37	29.11	6/4/2018	28.10	1.01
MW-300	579587.59	1106288.51	68.8	6/4/2018	57.95	10.85
MW-301	579282.59	1106601.15	80.51	6/4/2018	68.92	11.59
MW-302	579752.44	1107202.72	57.97	6/4/2018	47.80	10.17
MW-303	580183.01	1107460.45	44.97	6/4/2018	36.81	8.16
MW-304	580661.43	1106931.50	41.82	6/4/2018	35.38	6.44
MW-305	580179.89	1106680.03	58.57	6/4/2018	50.04	8.53
MW-306	578417.11	1106200.44	70.56	6/4/2018	56.15	14.41
MW-307	578209.77	1106865.99	104.18	6/4/2018	90.73	13.45
MW-308	580349.51	1107304.17	42.65	6/4/2018	34.88	7.77

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 Crist, Gulf Power Company, Pensacola, Florida

Monitoring Well	Northing	Easting	Top of Casing Elevation	Date	Depth to Water	Groundwater Elevation
MW-100	578116.11	1107316.00	103.03	10/5/2018	91.23	11.80
MW-101	577158.45	1107724.27	108	10/5/2018	97.55	10.45
MW-102	576886.86	1108472.89	112.17	10/5/2018	104.24	7.93
MW-103	577354.11	1109233.05	120.79	10/5/2018	113.2	7.59
MW-104	578494.34	1108915.77	68.25	10/5/2018	59.99	8.26
MW-105	579092.61	1108688.61	30.53	10/5/2018	21.86	8.67
MW-106	578765.08	1107895.05	77.99	10/5/2018	67.54	10.45
MW-107	577201.66	1107442.83	114.71	10/5/2018	103.07	11.64
MW-108	576208.36	1107577.06	83.54	10/5/2018	71.5	12.04
MW-109	577624.83	1109293.64	119.85	10/5/2018	112.36	7.49
MW-110	578095.94	1109139.45	90.33	10/5/2018	82.45	7.88
MW-200	581703.17	1108041.01	20.13	10/5/2018	17.86	2.27
MW-201	581138.29	1108637.91	52.12	10/5/2018	48.65	3.47
MW-202	580559.03	1109045.35	55.45	10/5/2018	51.37	4.08
MW-203	580100.37	1108497.51	50.6	10/5/2018	45.05	5.55
MW-204	580325.06	1107978.45	19.47	10/5/2018	13.20	6.27
MW-205	581076.41	1107907.46	20.28	10/5/2018	16.27	4.01
MW-206	581888.48	1108613.37	29.11	10/5/2018	26.66	2.45
MW-300	579587.59	1106288.51	68.8	10/5/2018	57.21	11.59
MW-301	579282.59	1106601.15	80.51	10/5/2018	68.36	12.15
MW-302	579752.44	1107202.72	57.97	10/5/2018	46.70	11.27
MW-303	580183.01	1107460.45	44.97	10/5/2018	35.18	9.79
MW-304	580661.43	1106931.50	41.82	10/5/2018	33.80	8.02
MW-305	580179.89	1106680.03	58.57	10/5/2018	48.83	9.74
MW-306	578417.11	1106200.44	70.56	10/5/2018	56.27	14.29
MW-307	578209.77	1106865.99	104.18	10/5/2018	91.18	13.00
MW-308	580349.51	1107304.17	42.65	10/5/2018	33.20	9.45

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

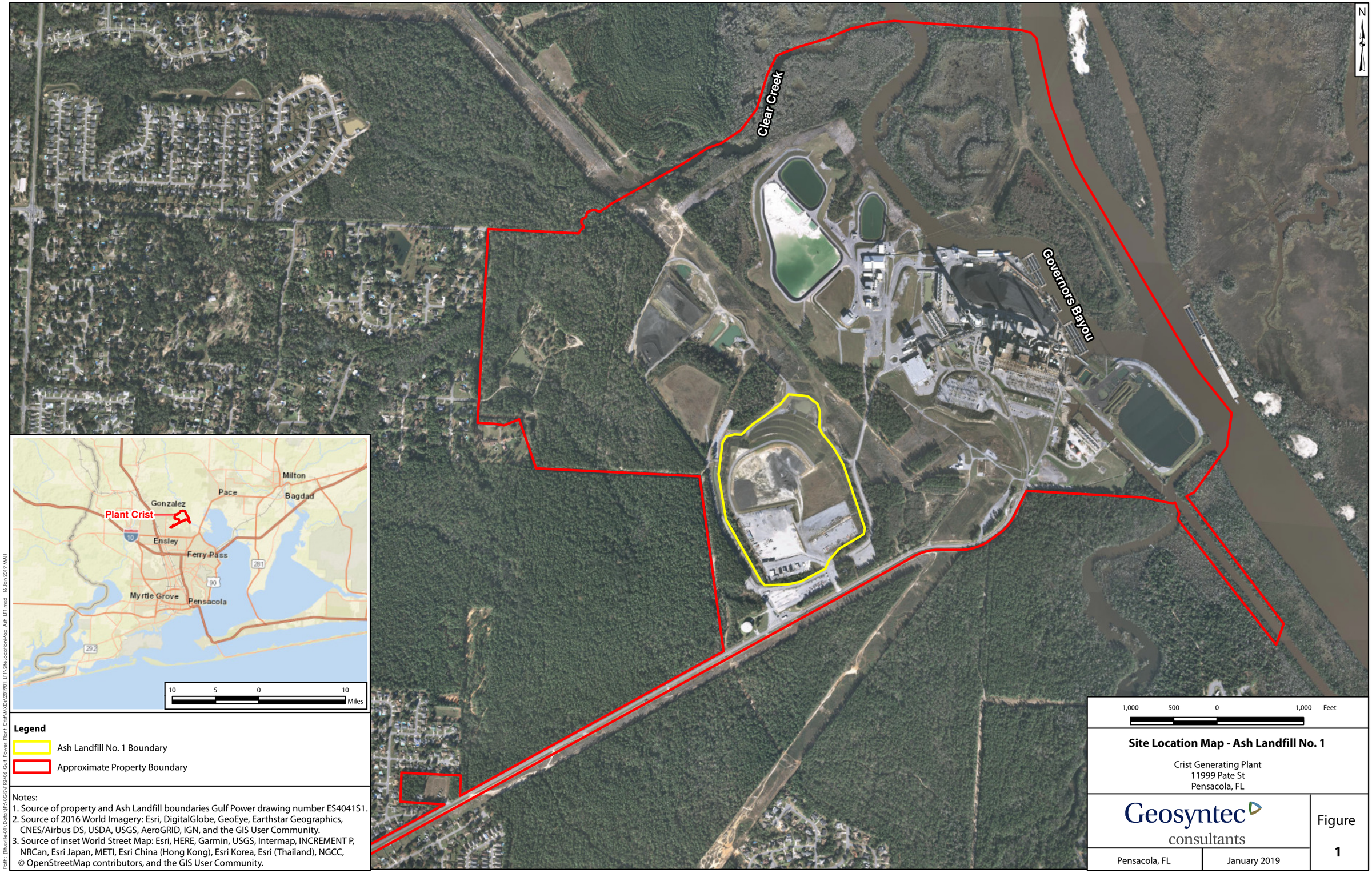
Plant Crist - LF1, Gulf Power Company, Pensacola, Florida

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	0.019	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	0.017	0.100
Cobalt[3]	mg/L	0.006	0.003	0.006
Fluoride	mg/L	4	0.120	4
Lead[3]	mg/L	0.015	0.001	0.015
Lithium[3]	mg/L	0.04	0.005	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	0.003	0.050
Thallium	mg/L	0.002	0.001	0.002
Combined Radium-226/228	pCi/L	5	2.507	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

- Ash Landfill No. 1 Boundary
- Approximate Property Boundary

Notes:
1. Source of property and Ash Landfill boundaries Gulf Power drawing number ES4041S1.
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.

Site Location Map - Ash Landfill No. 1

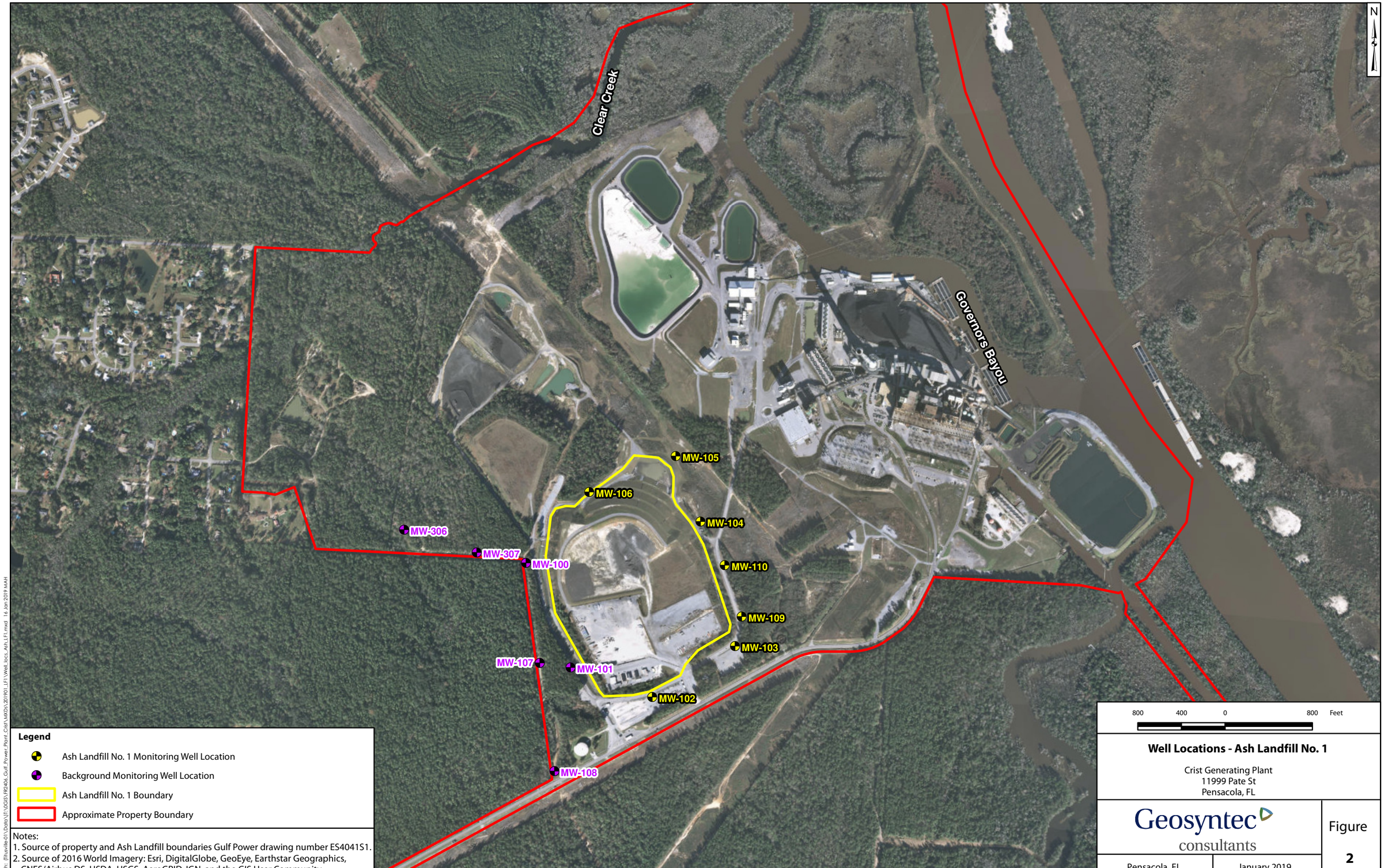
Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 1

Path: [Tallahassee-01\Data\JPA\GIS\FR40k_Gulf_Power_Plant_Crist\WKDs\201901_LF1\SiteLocationMap_Ash_LF1.mxd] 16 Jan 2019 MAH



Legend

- Ash Landfill No. 1 Monitoring Well Location
- Background Monitoring Well Location
- Ash Landfill No. 1 Boundary
- Approximate Property Boundary

Notes:
1. Source of property and Ash Landfill boundaries Gulf Power drawing number ES4041S1.
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 Landfill No. 1

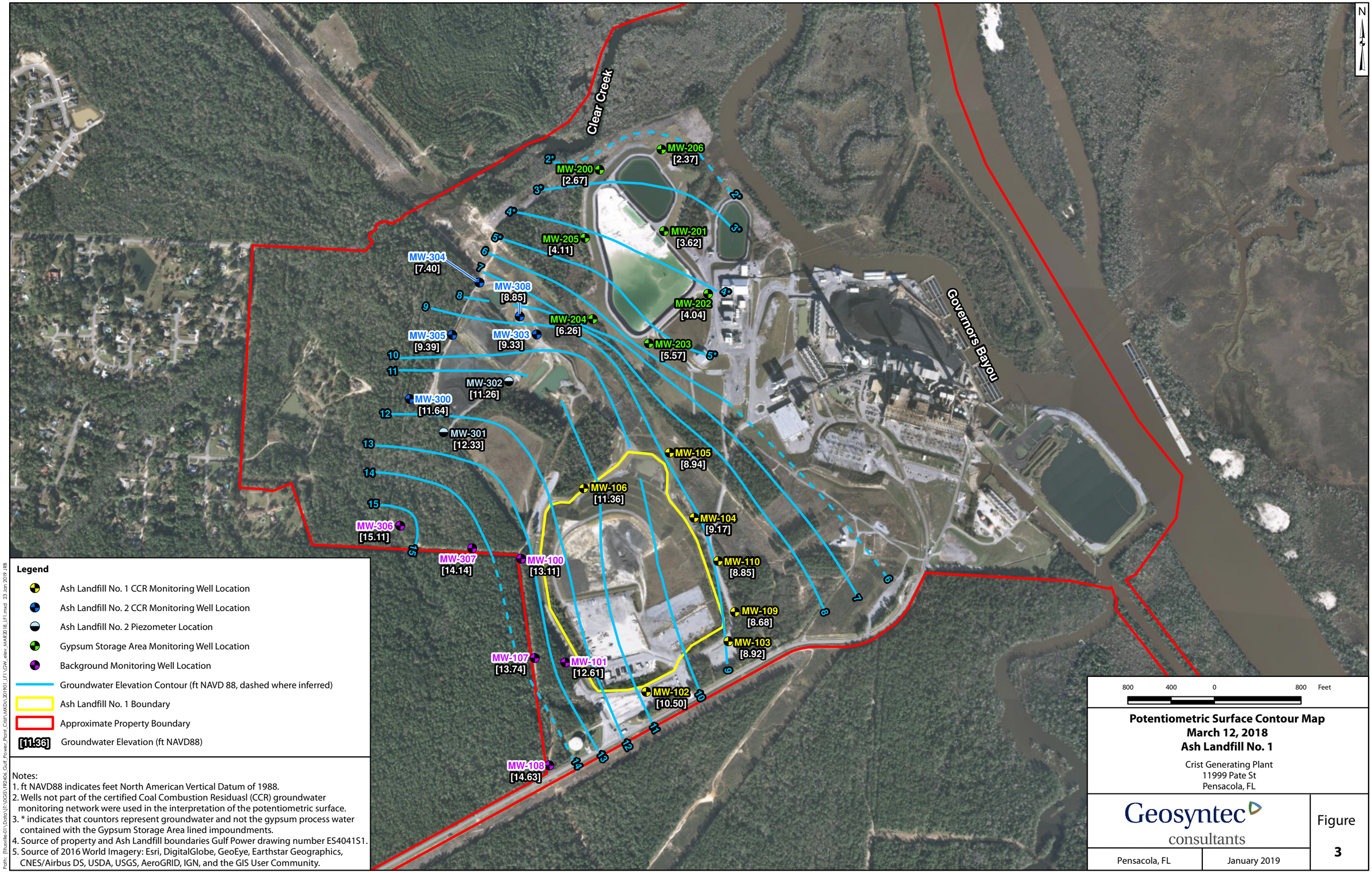
Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 2

Path: [Illustrator]:\Data\17\GIS\1F2406_Gulf_Power_Plant_Crist\MXDs\201901_LF1 Well locs_Ash LF1.mxd 16 Jan 2019 MAH



Notes:
1. ft NAVD88 indicates feet North American Vertical Datum of 1988.
2. Wells not part of the certified Coal Combustion Residuasl (CCR) groundwater monitoring network were used in the interpretation of the potentiometric surface.
3. * indicates that countors represent groundwater and not the gypsum process water contained with the Gypsum Storage Area lined impoundments.
4. Source of property and Ash Landfill boundaries Gulf Power drawing number ES4041S1.
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 12, 2018
Ash Landfill No. 1

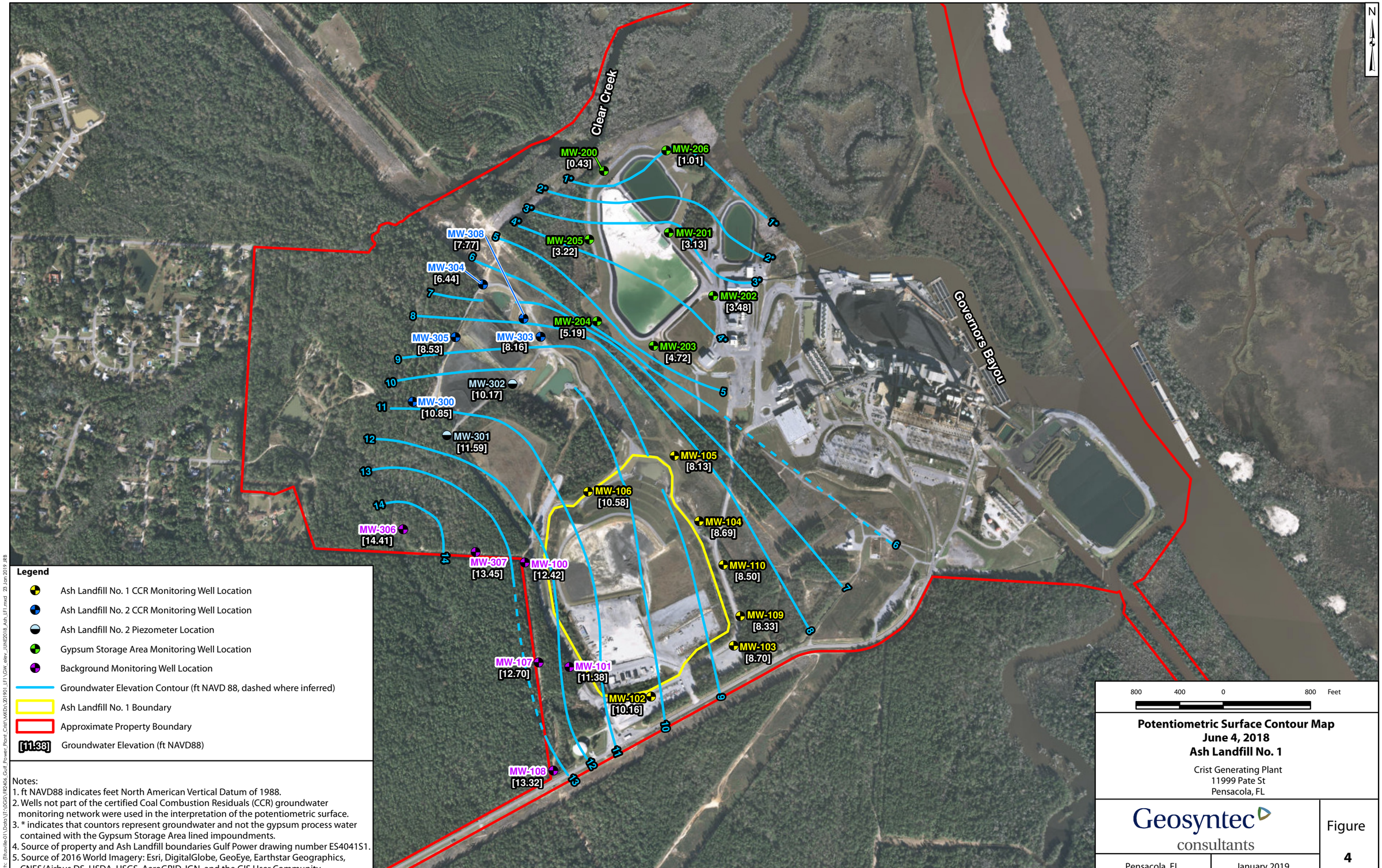
Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 3

Path: [Tfluville-01]:\Data\LT1\GIS\1F2406_Gulf_Power_Plant_Crist\MXDs\201901_LF1\GW_elev_MAR2018_LF1.mxd 23 Jan 2019 JRB



Notes:
1. ft NAVD88 indicates feet North American Vertical Datum of 1988.
2. Wells not part of the certified Coal Combustion Residuals (CCR) groundwater monitoring network were used in the interpretation of the potentiometric surface.
3. * indicates that countors represent groundwater and not the gypsum process water contained with the Gypsum Storage Area lined impoundments.
4. Source of property and Ash Landfill boundaries Gulf Power drawing number ES4041S1.
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 4, 2018
Ash Landfill No. 1

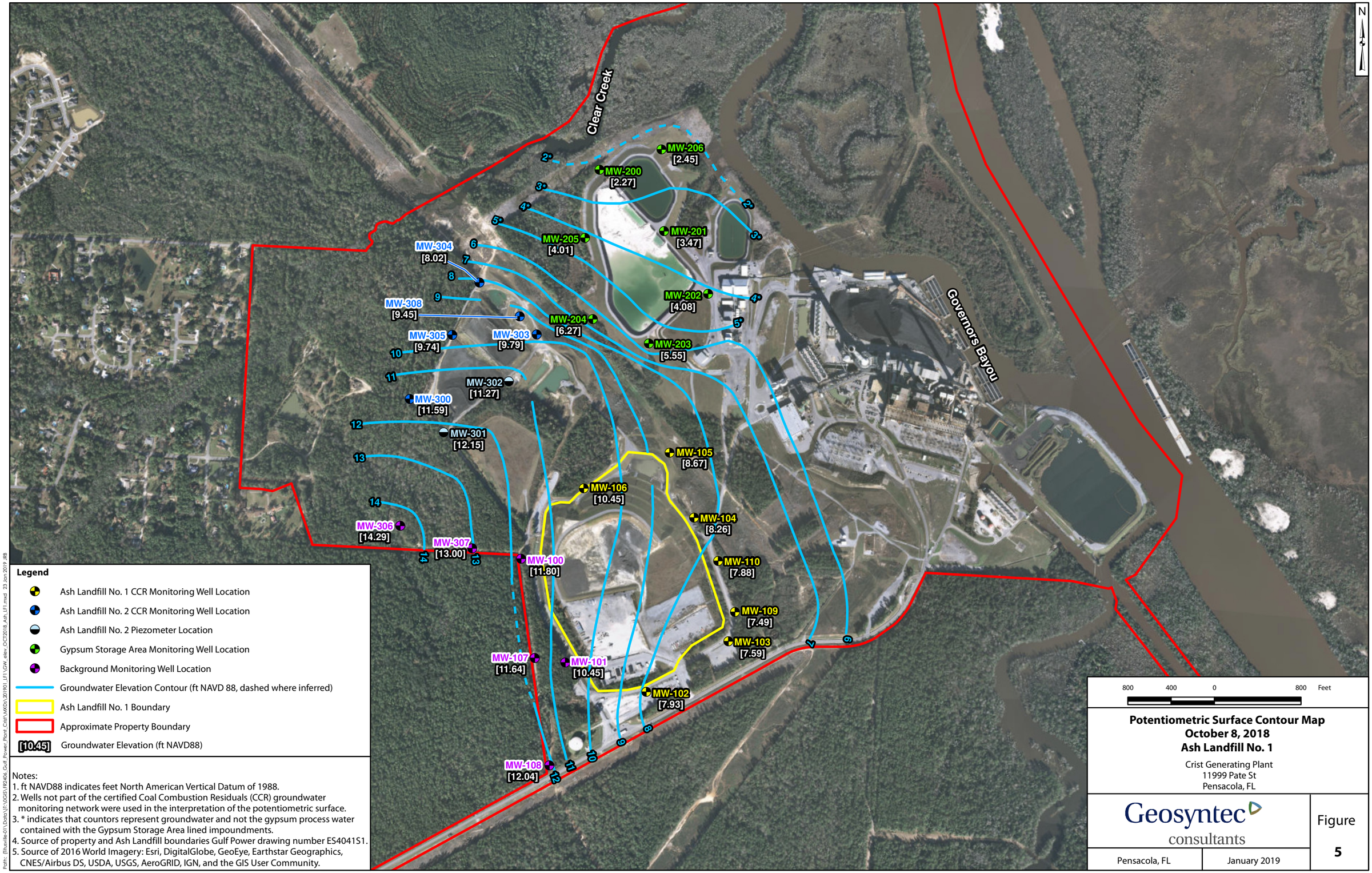
Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 4

Path: [Ftlauville-01\Data\JT\GIS\FP2406_Gulf_Power_Plant_Crist\WKDs\2019\01_LF1\GW_elev_JUN2018_Ash_LF1.mxd 23 Jan 2019 JRB



Legend

- Ash Landfill No. 1 CCR Monitoring Well Location
- Ash Landfill No. 2 CCR Monitoring Well Location
- Ash Landfill No. 2 Piezometer Location
- Gypsum Storage Area Monitoring Well Location
- Background Monitoring Well Location
- Groundwater Elevation Contour (ft NAVD 88, dashed where inferred)
- Ash Landfill No. 1 Boundary
- Approximate Property Boundary
- [10.45] Groundwater Elevation (ft NAVD88)

Notes:
1. ft NAVD88 indicates feet North American Vertical Datum of 1988.
2. Wells not part of the certified Coal Combustion Residuals (CCR) groundwater monitoring network were used in the interpretation of the potentiometric surface.
3. * indicates that countors represent groundwater and not the gypsum process water contained with the Gypsum Storage Area lined impoundments.
4. Source of property and Ash Landfill boundaries Gulf Power drawing number ES4041S1.
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
October 8, 2018
Ash Landfill No. 1

Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 5

Path: [Ftlauderdale01\Data\J:\GIS\P2406_Gulf_Power_Plant_Crist\MXDs\201901_LF1\GW_elev_OCT2018_Ash_LF1.mxd 23 Jan 2019 JRB

APPENDIX A

Laboratory Analytical and Field Sampling Reports

Product Name: Low-Flow System

Date: 2018-03-14 14:17:26

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	122 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	115 ft

Well Information:		Pumping Information:	
Well ID	MW-102	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7645376 L
Well Total Depth	120 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	101.73 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	13:56:28	300.02	21.19	5.64	33.54	3.15	101.75	8.17	143.91
Last 5	14:01:28	600.02	21.66	5.34	34.02	2.83	101.75	8.20	156.09
Last 5	14:06:28	900.05	21.85	5.20	34.25	1.66	101.75	8.15	159.08
Last 5	14:11:28	1200.03	21.79	5.13	34.38	1.41	101.75	8.13	158.13
Last 5	14:16:28	1500.02	21.81	5.08	34.40	1.24	101.75	8.15	156.43
Variance 0			0.19	-0.14	0.23			-0.05	2.99
Variance 1			-0.06	-0.07	0.13			-0.03	-0.95
Variance 2			0.02	-0.05	0.02			0.03	-1.70

Notes

Sample@1417, Sunny 62

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 17:50:58

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env	Tubing Type	PE
Project Name	Crist LF-1 CCR	Tubing Diameter	.17 in
Site Name	Crist plant	Tubing Length	120 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	115.0 ft

Well Information:		Pumping Information:	
Well ID	MW-103	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7556108 L
Well Total Depth	120 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	111.76 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	17:28:23	900.02	23.29	4.92	132.84	1.30	111.78	7.59	107.12
Last 5	17:33:23	1200.02	23.20	4.92	133.40	1.32	111.78	7.62	107.29
Last 5	17:38:23	1499.91	22.97	4.93	133.91	0.92	111.78	7.64	108.22
Last 5	17:43:23	1799.91	22.87	4.88	134.27	0.60	111.78	7.66	109.90
Last 5	17:48:23	2099.96	22.90	4.89	133.65	0.54	111.78	7.64	109.02
Variance 0			-0.23	0.01	0.51			0.02	0.93
Variance 1			-0.11	-0.05	0.37			0.02	1.68
Variance 2			0.03	0.01	-0.62			-0.02	-0.88

Notes

Sample time 1750. Sunny 64.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 15:55:28

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	85 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	78 ft

Well Information:		Pumping Information:	
Well ID	MW-104	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.599391 L
Well Total Depth	83 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.04 in
Depth to Water	59.06 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	15:34:26	1200.02	21.56	4.21	1735.48	16.50	59.10	4.80	537.60
Last 5	15:39:26	1500.02	21.56	4.20	1739.76	7.38	59.10	4.78	535.84
Last 5	15:44:26	1800.02	21.54	4.20	1745.60	4.68	59.10	4.76	534.83
Last 5	15:49:26	2100.03	21.50	4.20	1744.61	3.49	59.10	4.75	541.45
Last 5	15:54:26	2400.02	21.59	4.20	1742.37	2.98	59.10	4.74	543.90
Variance 0			-0.02	-0.00	5.84			-0.02	-1.01
Variance 1			-0.04	-0.00	-0.99			-0.01	6.63
Variance 2			0.09	-0.00	-2.24			-0.01	2.45

Notes

Sample@1555, Sunny 64

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 12:46:47

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	PP
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	45 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	38 ft

Well Information:		Pumping Information:	
Well ID	MW-105	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	0.03 in
Depth to Water	21.69 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	12:24:07	1200.02	20.22	6.31	552.00	1.84	21.70	0.49	-34.05
Last 5	12:29:07	1500.02	20.30	6.30	558.40	1.98	21.70	0.38	-35.55
Last 5	12:34:07	1800.02	19.90	6.30	563.23	2.11	21.70	0.33	-32.82
Last 5	12:39:07	2100.02	19.91	6.30	570.36	2.03	21.70	0.33	-32.64
Last 5	12:44:07	2400.02	19.89	6.29	576.17	1.93	21.70	0.24	-31.31
Variance 0			-0.40	-0.00	4.83			-0.05	2.73
Variance 1			0.01	-0.00	7.13			-0.00	0.18
Variance 2			-0.02	-0.01	5.81			-0.08	1.33

Notes

Sample@1245, DUP-03@1145, FB-03@1200 ,Sunny 60

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 10:32:57

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	95 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	88 ft

Well Information:		Pumping Information:	
Well ID	MW-106	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6440251 L
Well Total Depth	93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	66.8 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	10:11:21	600.02	19.85	5.32	26.06	0.29	66.80	8.14	88.24
Last 5	10:16:21	900.03	20.12	5.30	26.22	0.31	66.80	8.20	88.50
Last 5	10:21:21	1200.02	19.67	5.30	26.20	0.25	66.80	8.19	90.94
Last 5	10:26:21	1500.02	19.76	5.29	26.24	0.35	66.80	8.20	85.26
Last 5	10:31:21	1800.02	19.81	5.28	26.25	0.31	66.80	8.22	89.55
Variance 0			-0.44	-0.01	-0.02			-0.01	2.44
Variance 1			0.09	-0.01	0.04			0.02	-5.68
Variance 2			0.05	-0.01	0.01			0.01	4.29

Notes

Sample@1032, Sunny 54

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 16:22:58

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env	Tubing Type	PE
Project Name	Crist LF-1 CCR	Tubing Diameter	.17 in
Site Name	Crist plant	Tubing Length	134 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	128.0 ft

Well Information:		Pumping Information:	
Well ID	MW-109	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8180987 L
Well Total Depth	133 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	111.07 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	16:05:01	300.08	23.59	5.56	52.82	1.34	111.12	8.38	96.26
Last 5	16:10:01	600.02	23.47	4.80	52.79	0.41	111.12	8.41	100.61
Last 5	16:15:01	900.02	23.42	4.71	52.83	0.32	111.12	8.36	106.58
Last 5	16:20:01	1200.02	23.41	4.71	53.35	0.23	111.12	8.34	109.93
Last 5									
Variance 0			-0.11	-0.76	-0.02			0.03	4.36
Variance 1			-0.05	-0.08	0.04			-0.05	5.96
Variance 2			-0.02	-0.00	0.52			-0.03	3.35

Notes

Sample time 1623. EB-03 sample time 1545. Sunny 63.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 14:38:21

Project Information:		Pump Information:	
Operator Name	Rick Hagendorfer	Pump Model/Type	QED
Company Name	RDH Env	Tubing Type	PE
Project Name	Crist LF-1 CCR	Tubing Diameter	.17 in
Site Name	Crist plant	Tubing Length	119 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	Hach 2100Q	Pump placement from TOC	114.0 ft

Well Information:		Pumping Information:	
Well ID	MW-110	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7511473 L
Well Total Depth	119 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.11 in
Depth to Water	81.44 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	14:15:13	4499.84	23.43	4.74	1029.01	1.19	81.55	3.23	480.67
Last 5	14:20:13	4799.84	23.43	4.74	1036.42	1.05	81.55	3.16	493.45
Last 5	14:25:13	5099.84	23.40	4.74	1038.81	1.00	81.55	3.13	500.58
Last 5	14:30:13	5399.84	23.38	4.75	1050.70	0.88	81.55	3.07	504.28
Last 5	14:35:13	5699.84	23.52	4.75	1059.89	0.82	81.55	3.03	510.86
Variance 0			-0.02	0.00	2.39			-0.03	7.14
Variance 1			-0.02	0.01	11.89			-0.06	3.70
Variance 2			0.14	-0.00	9.19			-0.04	6.58

Notes

Sample time 1438. Sunny 63.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-12 11:27:27

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	CCR Background	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	121 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	114 ft

Well Information:		Pumping Information:	
Well ID	MW-100	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7600741 L
Well Total Depth	119 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	89.92 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	11:06:08	600.03	19.45	4.83	38.52	3.25	89.92	8.35	146.44
Last 5	11:11:08	900.02	19.63	4.84	38.61	0.98	89.92	8.37	144.13
Last 5	11:16:08	1200.02	19.94	4.84	38.44	1.02	89.92	8.34	143.51
Last 5	11:21:08	1500.02	19.97	4.84	38.36	0.93	89.92	8.29	142.46
Last 5	11:26:08	1800.02	19.99	4.85	38.52	0.90	89.92	8.26	141.13
Variance 0			0.31	0.00	-0.17			-0.03	-0.62
Variance 1			0.03	0.00	-0.09			-0.05	-1.05
Variance 2			0.02	0.01	0.17			-0.03	-1.33

Notes

Sample@1126, Sunny 50

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-14 08:47:30

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID		Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.22 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	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	08:26:02	1200.02	17.80	5.47	27.78	1.51	95.63	8.94	120.33
Last 5	08:31:02	1500.03	18.11	5.36	27.72	0.97	95.63	8.90	119.23
Last 5	08:36:02	1800.02	18.27	5.26	27.75	0.83	95.63	8.87	117.94
Last 5	08:41:02	2100.02	18.34	5.19	27.68	0.79	95.63	8.81	118.09
Last 5	08:46:02	2400.03	18.37	5.14	27.67	0.51	95.63	8.80	117.88
Variance 0			0.16	-0.10	0.03			-0.03	-1.30
Variance 1			0.06	-0.08	-0.07			-0.06	0.15
Variance 2			0.04	-0.05	-0.01			-0.01	-0.21

Notes

Sample@0846, Sunny 45

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-12 09:41:20

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	CCR Background	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	126 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	119 ft

Well Information:		Pumping Information:	
Well ID	MW-107	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7823914 L
Well Total Depth	124 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	100.97 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%	+/- 10		+/- 0.2	+/- 10
Last 5	09:24:46	300.02	17.97	4.84	30.21	6.51	101.02	9.44	164.00
Last 5	09:29:46	600.02	18.02	4.82	30.47	3.26	101.02	9.30	160.24
Last 5	09:34:46	900.02	18.16	4.81	30.67	1.66	101.02	9.36	157.88
Last 5	09:39:46	1200.02	18.02	4.81	30.80	0.92	101.02	9.37	156.41
Last 5									
Variance 0			0.05	-0.02	0.26			-0.14	-3.77
Variance 1			0.14	-0.00	0.19			0.06	-2.36
Variance 2			-0.14	-0.01	0.13			0.01	-1.47

Notes

Sample@0940, partly cloudy 48

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-12 08:00:23

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	CCR Background	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	100 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	93 ft

Well Information:		Pumping Information:	
Well ID	MW-108	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6663423 L
Well Total Depth	98 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.07 in
Depth to Water	68.91 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	07:34:46	600.02	19.19	5.12	38.77	6.33	68.99	8.83	182.82
Last 5	07:39:46	900.02	19.23	4.98	38.16	3.89	68.99	8.83	180.65
Last 5	07:44:46	1200.02	19.32	4.89	37.99	22.90	68.98	8.86	178.64
Last 5	07:49:46	1500.02	19.43	4.84	37.60	0.85	68.98	8.86	175.91
Last 5	07:54:46	1800.02	19.31	4.81	37.35	0.54	68.98	8.85	173.05
Variance 0			0.09	-0.09	-0.17			0.03	-2.02
Variance 1			0.11	-0.05	-0.38			-0.00	-2.72
Variance 2			-0.11	-0.03	-0.26			-0.01	-2.86

Notes

Sample@0756,Cloudy 46,

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-12 12:54:12

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	CCR Background	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	95 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	88 ft

Well Information:		Pumping Information:	
Well ID	MW-306	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6440251 L
Well Total Depth	93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.07 in
Depth to Water	55.45 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	12:32:21	600.02	19.71	5.08	32.39	5.76	55.52	8.60	120.92
Last 5	12:37:21	900.02	19.77	5.07	32.40	4.94	55.52	8.61	121.63
Last 5	12:42:21	1200.02	19.67	5.07	32.44	4.64	55.52	8.65	122.06
Last 5	12:47:21	1500.02	19.72	5.07	32.31	2.87	55.52	8.62	122.89
Last 5	12:52:21	1800.03	19.67	5.07	32.27	2.45	55.52	8.62	123.63
Variance 0			-0.09	-0.00	0.04			0.04	0.43
Variance 1			0.04	-0.00	-0.13			-0.03	0.83
Variance 2			-0.05	0.00	-0.05			0.01	0.74

Notes

Sample@1253, Sunny 55

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-12 15:22:26

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	CCR Background	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	125 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	118 ft

Well Information:		Pumping Information:	
Well ID	MW-307	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7779279 L
Well Total Depth	123 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.86 in
Depth to Water	90.04 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	14:59:49	2400.02	20.84	5.53	28.71	0.76	90.90	4.86	61.14
Last 5	15:04:49	2700.02	20.87	5.55	29.33	0.70	90.90	4.76	57.42
Last 5	15:09:49	3000.02	20.95	5.56	29.36	0.47	90.90	5.00	57.93
Last 5	15:14:49	3300.03	21.14	5.58	30.32	0.57	90.90	4.83	53.78
Last 5	15:19:49	3600.03	21.10	5.60	30.54	0.66	90.90	4.85	52.39
Variance 0			0.07	0.01	0.03			0.24	0.52
Variance 1			0.20	0.02	0.97			-0.17	-4.15
Variance 2			-0.05	0.02	0.22			0.03	-1.39

Notes

Sample@1521, DUP-01@1421, Sunny 59

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: 400-150790-1
TestAmerica Sample Delivery Group: Background
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
4/12/2018 10:58:36 AM

Cheyenne Whitmire, Project Manager II
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LINKS

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 6
Sample Summary 7
Client Sample Results 8
Definitions 14
Chronicle 15
QC Association 17
QC Sample Results 20
Chain of Custody 26
Receipt Checklists 27
Certification Summary 28

Job ID: 400-150790-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-150790-1

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 390576 and analytical batch 390726 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.

General Chemistry
Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 391117 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Detection Summary

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-150790-1

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
Calcium	0.88		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00055	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0011	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00046	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	18		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.3		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.85				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-107 — Lab Sample ID: 400-150790-2

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
Calcium	0.49		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00055	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0014	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00064	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	14		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.81				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-108 — Lab Sample ID: 400-150790-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.010		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.4		0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.00047	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Chloride	5.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	2.6	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.81				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 400-150790-4

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
Calcium	0.59		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00044	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Selenium	0.00026	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-306 (Continued) — Lab Sample ID: 400-150790-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.07				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 400-150790-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.015		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.71		0.25	0.13	mg/L	5		6020	Total Recoverable
Chloride	4.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.6				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 400-150790-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.015		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.70		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0014	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Chloride	3.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 400-150790-1
SDG: Background

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 Plant Crist

TestAmerica Job ID: 400-150790-1
SDG: Background

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-150790-1	MW-100	Water	03/12/18 11:26	03/13/18 14:40
400-150790-2	MW-107	Water	03/12/18 09:40	03/13/18 14:40
400-150790-3	MW-108	Water	03/12/18 07:56	03/13/18 14:40
400-150790-4	MW-306	Water	03/12/18 12:53	03/13/18 14:40
400-150790-5	MW-307	Water	03/12/18 15:21	03/13/18 14:40
400-150790-6	DUP-01	Water	03/12/18 14:21	03/13/18 14:40

Client Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-100

Date Collected: 03/12/18 11:26
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-1

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		03/19/18 10:18	03/19/18 18:28	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 18:28	5
Barium	**0.017**		0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 18:28	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:28	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 18:28	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:28	5
Calcium	**0.88**		0.25	0.13	mg/L		03/19/18 10:18	03/19/18 18:28	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 18:28	5
Cobalt	**0.00055**	**I**	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 18:28	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 18:28	5
Lithium	**0.0011**	**I**	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 18:28	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 18:28	5
Selenium	**0.00046**	**I**	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 18:28	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 18:28	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		03/15/18 09:20	03/19/18 10:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**18**		5.0	3.4	mg/L			03/17/18 15:53	1
Chloride	**5.3**		2.0	0.60	mg/L			03/20/18 09:49	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 12:16	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/20/18 13:51	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.85**				SU			03/12/18 11:26	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-107

Date Collected: 03/12/18 09:40
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-2

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		03/19/18 10:18	03/19/18 18:51	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 18:51	5
Barium	**0.013**		0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 18:51	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:51	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 18:51	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:51	5
Calcium	**0.49**		0.25	0.13	mg/L		03/19/18 10:18	03/19/18 18:51	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 18:51	5
Cobalt	**0.00055**	**I**	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 18:51	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 18:51	5
Lithium	**0.0014**	**I**	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 18:51	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 18:51	5
Selenium	**0.00064**	**I**	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 18:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 18:51	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		03/15/18 09:20	03/19/18 10:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**14**		5.0	3.4	mg/L			03/15/18 19:27	1
Chloride	**6.1**		2.0	0.60	mg/L			03/20/18 09:52	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 12:19	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/20/18 13:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.81**				SU			03/12/18 09:40	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-108

Date Collected: 03/12/18 07:56
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-3

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		03/19/18 10:18	03/19/18 18:55	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 18:55	5
Barium	**0.010**		0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 18:55	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:55	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 18:55	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:55	5
Calcium	**1.4**		0.25	0.13	mg/L		03/19/18 10:18	03/19/18 18:55	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 18:55	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 18:55	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 18:55	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 18:55	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 18:55	5
Selenium	**0.00047**	**I**	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 18:55	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 18:55	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		03/15/18 09:20	03/19/18 10:15	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			03/17/18 15:53	1
Chloride	**5.9**		2.0	0.60	mg/L			03/20/18 09:52	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 12:22	1
Sulfate	**2.6**	**I**	5.0	1.4	mg/L			03/20/18 13:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.81**				SU			03/12/18 07:56	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-306

Date Collected: 03/12/18 12:53
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-4

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		03/19/18 10:18	03/19/18 19:22	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 19:22	5
Barium	**0.013**		0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 19:22	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 19:22	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 19:22	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 19:22	5
Calcium	**0.59**		0.25	0.13	mg/L		03/19/18 10:18	03/19/18 19:22	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 19:22	5
Cobalt	**0.00044**	**I**	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 19:22	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 19:22	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 19:22	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 19:22	5
Selenium	**0.00026**	**I**	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 19:22	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 19:22	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		03/15/18 09:20	03/19/18 10:17	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			03/17/18 15:53	1
Chloride	**5.6**		2.0	0.60	mg/L			03/20/18 09:52	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 12:24	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/20/18 13:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.07**				SU			03/12/18 12:53	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-307

Date Collected: 03/12/18 15:21
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-5

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		03/19/18 10:18	03/19/18 19:27	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 19:27	5
Barium	**0.015**		0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 19:27	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 19:27	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 19:27	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 19:27	5
Calcium	**0.71**		0.25	0.13	mg/L		03/19/18 10:18	03/19/18 19:27	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 19:27	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 19:27	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 19:27	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 19:27	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 19:27	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 19:27	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 19:27	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		03/15/18 09:20	03/19/18 10:35	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			03/17/18 15:53	1
Chloride	**4.0**		2.0	0.60	mg/L			03/20/18 09:52	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 11:50	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/20/18 13:58	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.6**				SU			03/12/18 15:21	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: DUP-01

Date Collected: 03/12/18 14:21
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-6

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		03/19/18 10:18	03/19/18 19:31	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 19:31	5
Barium	**0.015**		0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 19:31	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 19:31	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 19:31	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 19:31	5
Calcium	**0.70**		0.25	0.13	mg/L		03/19/18 10:18	03/19/18 19:31	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 19:31	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 19:31	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 19:31	5
Lithium	**0.0014**	**I**	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 19:31	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 19:31	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 19:31	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 19:31	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		03/15/18 09:20	03/19/18 10:37	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			03/17/18 15:53	1
Chloride	**3.9**		2.0	0.60	mg/L			03/20/18 09:57	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 17:02	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/20/18 13:58	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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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.
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 Plant Crist

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-150790-1

Date Collected: 03/12/18 11:26
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			390576	03/19/18 10:18	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	390726	03/19/18 18:28	DRE	TAL PEN
Total/NA	Prep	7470A			390174	03/15/18 09:20	JAP	TAL PEN
Total/NA	Analysis	7470A		1	390627	03/19/18 10:12	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390489	03/17/18 15:53	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390740	03/20/18 09:49	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391059	03/22/18 12:16	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	390781	03/20/18 13:51	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/12/18 11:26	AW	TAL PEN

Client Sample ID: MW-107 — Lab Sample ID: 400-150790-2

Date Collected: 03/12/18 09:40
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			390576	03/19/18 10:18	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	390726	03/19/18 18:51	DRE	TAL PEN
Total/NA	Prep	7470A			390174	03/15/18 09:20	JAP	TAL PEN
Total/NA	Analysis	7470A		1	390627	03/19/18 10:13	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390294	03/15/18 19:27	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390740	03/20/18 09:52	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391059	03/22/18 12:19	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	390781	03/20/18 13:58	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/12/18 09:40	AW	TAL PEN

Client Sample ID: MW-108 — Lab Sample ID: 400-150790-3

Date Collected: 03/12/18 07:56
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			390576	03/19/18 10:18	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	390726	03/19/18 18:55	DRE	TAL PEN
Total/NA	Prep	7470A			390174	03/15/18 09:20	JAP	TAL PEN
Total/NA	Analysis	7470A		1	390627	03/19/18 10:15	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390489	03/17/18 15:53	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390740	03/20/18 09:52	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391059	03/22/18 12:22	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	390781	03/20/18 13:58	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/12/18 07:56	AW	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Client Sample ID: MW-306
Date Collected: 03/12/18 12:53
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			390576	03/19/18 10:18	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	390726	03/19/18 19:22	DRE	TAL PEN
Total/NA	Prep	7470A			390174	03/15/18 09:20	JAP	TAL PEN
Total/NA	Analysis	7470A		1	390627	03/19/18 10:17	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390489	03/17/18 15:53	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390740	03/20/18 09:52	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391059	03/22/18 12:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	390781	03/20/18 13:58	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/12/18 12:53	AW	TAL PEN

Client Sample ID: MW-307
Date Collected: 03/12/18 15:21
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			390576	03/19/18 10:18	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	390726	03/19/18 19:27	DRE	TAL PEN
Total/NA	Prep	7470A			390174	03/15/18 09:20	JAP	TAL PEN
Total/NA	Analysis	7470A		1	390627	03/19/18 10:35	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390489	03/17/18 15:53	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390740	03/20/18 09:52	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391059	03/22/18 11:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	390781	03/20/18 13:58	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/12/18 15:21	AW	TAL PEN

Client Sample ID: DUP-01
Date Collected: 03/12/18 14:21
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			390576	03/19/18 10:18	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	390726	03/19/18 19:31	DRE	TAL PEN
Total/NA	Prep	7470A			390174	03/15/18 09:20	JAP	TAL PEN
Total/NA	Analysis	7470A		1	390627	03/19/18 10:37	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390489	03/17/18 15:53	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390740	03/20/18 09:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391117	03/22/18 17:02	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	390781	03/20/18 13:58	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 Plant Crist

TestAmerica Job ID: 400-150790-1
SDG: Background

Metals

Prep Batch: 390174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	7470A	
400-150790-2	MW-107	Total/NA	Water	7470A	
400-150790-3	MW-108	Total/NA	Water	7470A	
400-150790-4	MW-306	Total/NA	Water	7470A	
400-150790-5	MW-307	Total/NA	Water	7470A	
400-150790-6	DUP-01	Total/NA	Water	7470A	
MB 400-390174/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-390174/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-150834-A-3-B MS	Matrix Spike	Total/NA	Water	7470A	
400-150834-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 390576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total Recoverable	Water	3005A	
400-150790-2	MW-107	Total Recoverable	Water	3005A	
400-150790-3	MW-108	Total Recoverable	Water	3005A	
400-150790-4	MW-306	Total Recoverable	Water	3005A	
400-150790-5	MW-307	Total Recoverable	Water	3005A	
400-150790-6	DUP-01	Total Recoverable	Water	3005A	
MB 400-390576/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-390576/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-150790-1 MS	MW-100	Total Recoverable	Water	3005A	
400-150790-1 MSD	MW-100	Total Recoverable	Water	3005A	

Analysis Batch: 390627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	7470A	390174
400-150790-2	MW-107	Total/NA	Water	7470A	390174
400-150790-3	MW-108	Total/NA	Water	7470A	390174
400-150790-4	MW-306	Total/NA	Water	7470A	390174
400-150790-5	MW-307	Total/NA	Water	7470A	390174
400-150790-6	DUP-01	Total/NA	Water	7470A	390174
MB 400-390174/14-A	Method Blank	Total/NA	Water	7470A	390174
LCS 400-390174/15-A	Lab Control Sample	Total/NA	Water	7470A	390174
400-150834-A-3-B MS	Matrix Spike	Total/NA	Water	7470A	390174
400-150834-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	390174

Analysis Batch: 390726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total Recoverable	Water	6020	390576
400-150790-2	MW-107	Total Recoverable	Water	6020	390576
400-150790-3	MW-108	Total Recoverable	Water	6020	390576
400-150790-4	MW-306	Total Recoverable	Water	6020	390576
400-150790-5	MW-307	Total Recoverable	Water	6020	390576
400-150790-6	DUP-01	Total Recoverable	Water	6020	390576
MB 400-390576/1-A ^5	Method Blank	Total Recoverable	Water	6020	390576
LCS 400-390576/2-A	Lab Control Sample	Total Recoverable	Water	6020	390576
400-150790-1 MS	MW-100	Total Recoverable	Water	6020	390576
400-150790-1 MSD	MW-100	Total Recoverable	Water	6020	390576

QC Association Summary

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

TestAmerica Job ID: 400-150790-1
SDG: Background

General Chemistry

Analysis Batch: 390294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-2	MW-107	Total/NA	Water	SM 2540C	
MB 400-390294/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-390294/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-150734-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 390489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	SM 2540C	
400-150790-3	MW-108	Total/NA	Water	SM 2540C	
400-150790-4	MW-306	Total/NA	Water	SM 2540C	
400-150790-5	MW-307	Total/NA	Water	SM 2540C	
400-150790-6	DUP-01	Total/NA	Water	SM 2540C	
MB 400-390489/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-390489/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-150790-1 DU	MW-100	Total/NA	Water	SM 2540C	

Analysis Batch: 390740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	SM 4500 Cl- E	
400-150790-2	MW-107	Total/NA	Water	SM 4500 Cl- E	
400-150790-3	MW-108	Total/NA	Water	SM 4500 Cl- E	
400-150790-4	MW-306	Total/NA	Water	SM 4500 Cl- E	
400-150790-5	MW-307	Total/NA	Water	SM 4500 Cl- E	
400-150790-6	DUP-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-390740/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-390740/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-390740/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-150790-1 MS	MW-100	Total/NA	Water	SM 4500 Cl- E	
400-150790-1 MSD	MW-100	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 390781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	SM 4500 SO4 E	
400-150790-2	MW-107	Total/NA	Water	SM 4500 SO4 E	
400-150790-3	MW-108	Total/NA	Water	SM 4500 SO4 E	
400-150790-4	MW-306	Total/NA	Water	SM 4500 SO4 E	
400-150790-5	MW-307	Total/NA	Water	SM 4500 SO4 E	
400-150790-6	DUP-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-390781/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-390781/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-390781/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-150790-1 MS	MW-100	Total/NA	Water	SM 4500 SO4 E	
400-150790-1 MSD	MW-100	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 391059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	SM 4500 F C	
400-150790-2	MW-107	Total/NA	Water	SM 4500 F C	
400-150790-3	MW-108	Total/NA	Water	SM 4500 F C	
400-150790-4	MW-306	Total/NA	Water	SM 4500 F C	
400-150790-5	MW-307	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 391059 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-391059/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-391059/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
660-86021-C-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
660-86021-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
660-86091-C-1 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 391117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-6	DUP-01	Total/NA	Water	SM 4500 F C	
MB 400-391117/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-391117/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
660-86135-C-6 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
660-86135-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
660-86135-C-1 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 393575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	Field Sampling	
400-150790-2	MW-107	Total/NA	Water	Field Sampling	
400-150790-3	MW-108	Total/NA	Water	Field Sampling	
400-150790-4	MW-306	Total/NA	Water	Field Sampling	
400-150790-5	MW-307	Total/NA	Water	Field Sampling	

QC Sample Results

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

TestAmerica Job ID: 400-150790-1
SDG: Background

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-390576/1-A ^5
Matrix: Water
Analysis Batch: 390726

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 390576

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/19/18 10:18	03/19/18 18:15	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/19/18 10:18	03/19/18 18:15	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/19/18 10:18	03/19/18 18:15	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:15	5
Boron	0.021	U	0.050	0.021	mg/L		03/19/18 10:18	03/19/18 18:15	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/19/18 10:18	03/19/18 18:15	5
Calcium	0.13	U	0.25	0.13	mg/L		03/19/18 10:18	03/19/18 18:15	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/19/18 10:18	03/19/18 18:15	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/19/18 10:18	03/19/18 18:15	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/19/18 10:18	03/19/18 18:15	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/19/18 10:18	03/19/18 18:15	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/19/18 10:18	03/19/18 18:15	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/19/18 10:18	03/19/18 18:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/19/18 10:18	03/19/18 18:15	5

Lab Sample ID: LCS 400-390576/2-A
Matrix: Water
Analysis Batch: 390726

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 390576

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0541		mg/L		108	80 - 120
Arsenic	0.0500	0.0523		mg/L		105	80 - 120
Barium	0.0500	0.0511		mg/L		102	80 - 120
Beryllium	0.0500	0.0513		mg/L		103	80 - 120
Boron	0.100	0.109		mg/L		109	80 - 120
Cadmium	0.0500	0.0539		mg/L		108	80 - 120
Calcium	5.00	5.37		mg/L		107	80 - 120
Chromium	0.0500	0.0527		mg/L		105	80 - 120
Cobalt	0.0500	0.0523		mg/L		105	80 - 120
Lead	0.0500	0.0540		mg/L		108	80 - 120
Lithium	0.0500	0.0529		mg/L		106	80 - 120
Molybdenum	0.0500	0.0531		mg/L		106	80 - 120
Selenium	0.0500	0.0495		mg/L		99	80 - 120
Thallium	0.0100	0.0107		mg/L		107	80 - 120

Lab Sample ID: 400-150790-1 MS
Matrix: Water
Analysis Batch: 390726

Client Sample ID: MW-100
Prep Type: Total Recoverable
Prep Batch: 390576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0561		mg/L		112	75 - 125
Arsenic	0.00046	U	0.0500	0.0535		mg/L		107	75 - 125
Barium	0.017		0.0500	0.0670		mg/L		101	75 - 125
Beryllium	0.00034	U	0.0500	0.0544		mg/L		109	75 - 125
Boron	0.021	U	0.100	0.126	J3	mg/L		126	75 - 125
Cadmium	0.00034	U	0.0500	0.0534		mg/L		107	75 - 125
Calcium	0.88		5.00	6.28		mg/L		108	75 - 125
Chromium	0.0011	U	0.0500	0.0537		mg/L		107	75 - 125

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

Lab Sample ID: 400-150790-1 MS — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 390726 — **Prep Batch: 390576**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00055	I	0.0500	0.0530		mg/L		105	75 - 125
Lead	0.00035	U	0.0500	0.0500		mg/L		100	75 - 125
Lithium	0.0011	I	0.0500	0.0669	J3	mg/L		134	75 - 125
Molybdenum	0.00085	U	0.0500	0.0539		mg/L		108	75 - 125
Selenium	0.00046	I	0.0500	0.0524		mg/L		104	75 - 125
Thallium	0.000085	U	0.0100	0.0108		mg/L		108	75 - 125

Lab Sample ID: 400-150790-1 MSD — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 390726 — **Prep Batch: 390576**

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	0.0541		mg/L		108	75 - 125	4	20
Arsenic	0.00046	U	0.0500	0.0522		mg/L		104	75 - 125	2	20
Barium	0.017		0.0500	0.0676		mg/L		102	75 - 125	1	20
Beryllium	0.00034	U	0.0500	0.0526		mg/L		105	75 - 125	3	20
Boron	0.021	U	0.100	0.120		mg/L		120	75 - 125	4	20
Cadmium	0.00034	U	0.0500	0.0521		mg/L		104	75 - 125	2	20
Calcium	0.88		5.00	6.21		mg/L		107	75 - 125	1	20
Chromium	0.0011	U	0.0500	0.0527		mg/L		105	75 - 125	2	20
Cobalt	0.00055	I	0.0500	0.0526		mg/L		104	75 - 125	1	20
Lead	0.00035	U	0.0500	0.0489		mg/L		98	75 - 125	2	20
Lithium	0.0011	I	0.0500	0.0657	J3	mg/L		131	75 - 125	2	20
Molybdenum	0.00085	U	0.0500	0.0534		mg/L		107	75 - 125	1	20
Selenium	0.00046	I	0.0500	0.0493		mg/L		98	75 - 125	6	20
Thallium	0.000085	U	0.0100	0.0106		mg/L		106	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-390174/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390627 — **Prep Batch: 390174**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		03/15/18 09:19	03/19/18 10:02	1

Lab Sample ID: LCS 400-390174/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390627 — **Prep Batch: 390174**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000924		mg/L		92	80 - 120

Lab Sample ID: 400-150834-A-3-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390627 — **Prep Batch: 390174**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00027		0.00201	0.00201		mg/L		86	80 - 120

Lab Sample ID: 400-150834-A-3-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390627 — **Prep Batch: 390174**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00027		0.00201	0.00197		mg/L		84	80 - 120	2	20

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

Lab Sample ID: MB 400-390294/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390294

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			03/15/18 19:27	1

Lab Sample ID: LCS 400-390294/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390294

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	264		mg/L		90	78 - 122

Lab Sample ID: 400-150734-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390294

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	620		618		mg/L		0.3	5

Lab Sample ID: MB 400-390489/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390489

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			03/17/18 15:53	1

Lab Sample ID: LCS 400-390489/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390489

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: 400-150790-1 DU — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390489

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	18		18.0		mg/L		0	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-390740/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390740

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			03/20/18 09:48	1

Lab Sample ID: LCS 400-390740/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.1		mg/L		104	90 - 110

Lab Sample ID: MRL 400-390740/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390740

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.92	I	mg/L		96	50 - 150

Lab Sample ID: 400-150790-1 MS — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390740

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.3		10.0	15.8		mg/L		105	73 - 120

Lab Sample ID: 400-150790-1 MSD — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390740

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.3		10.0	16.0		mg/L		107	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-391059/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391059

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 11:08	1

Lab Sample ID: LCS 400-391059/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391059

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

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 660-86021-C-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.032	U	1.00	1.12		mg/L		112	75 - 125		

Lab Sample ID: 660-86021-C-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391059

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	1.12		mg/L		112	75 - 125	0	4

Lab Sample ID: 660-86091-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391059

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 400-391117/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391117

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/22/18 15:38	1

Lab Sample ID: LCS 400-391117/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391117

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: 660-86135-C-6 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391117

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.29		1.00	0.910	J3	mg/L		62	75 - 125		

Lab Sample ID: 660-86135-C-6 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.29		1.00	0.890	J3	mg/L		60	75 - 125	2	4

Lab Sample ID: 660-86135-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391117

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 Plant Crist

TestAmerica Job ID: 400-150790-1
SDG: Background

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-390781/6
Matrix: Water
Analysis Batch: 390781

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			03/20/18 13:37	1

Lab Sample ID: LCS 400-390781/7
Matrix: Water
Analysis Batch: 390781

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	14.0		mg/L		93	90 - 110

Lab Sample ID: MRL 400-390781/3
Matrix: Water
Analysis Batch: 390781

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	4.69	I	mg/L		94	50 - 150

Lab Sample ID: 400-150790-1 MS
Matrix: Water
Analysis Batch: 390781

Client Sample ID: MW-100
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	10.2		mg/L		102	77 - 128

Lab Sample ID: 400-150790-1 MSD
Matrix: Water
Analysis Batch: 390781

Client Sample ID: MW-100
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	10.1		mg/L		101	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 Swales	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-1
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 Plant Crist	Project #: 40005424			
Site: Background	SSOW#:			

Analysis Requested

400-150790 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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-100	3/12/18	1126	G	Water			X	X	X	X		
MW-107	3/12/18	0940	G	Water			X	X	X	X		
MW-108	3/12/18	0756	G	Water			X	X	X	X		
MW-306	3/12/18	1253	G	Water			X	X	X	X		
MW-307	3/12/18	1521	G	Water			X	X	X	X		
Dup-01	3/12/18	1421	G	W			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
	3/13/18 1440	RDH		3/13/17 1440	
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: 400-150790-1
SDG Number: Background

Login Number: 150790
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 IR7
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 Plant Crist

TestAmerica Job ID: 400-150790-1
SDG: Background

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
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: 400-150790-2
TestAmerica Sample Delivery Group: Background
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
4/12/2018 10:59:21 AM

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

LINKS

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 12
Chronicle 13
QC Association 15
QC Sample Results 16
Chain of Custody 18
Receipt Checklists 19
Certification Summary 21

Job ID: 400-150790-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-150790-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-356132: Insufficient sample volume was available to perform a sample duplicate (DUP, MS, MSD) for the following samples: MW-100 (400-150790-1), MW-107 (400-150790-2), MW-108 (400-150790-3), MW-306 (400-150790-4), MW-307 (400-150790-5) and DUP-01 (400-150790-6). 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 160-356125: Insufficient sample volume was available to perform a sample duplicate (DUP, MS, MSD) for the following samples: MW-100 (400-150790-1), MW-107 (400-150790-2), MW-108 (400-150790-3), MW-306 (400-150790-4), MW-307 (400-150790-5) and DUP-01 (400-150790-6). 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 Plant Crist

TestAmerica Job ID: 400-150790-2
SDG: Background

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-150790-1	MW-100	Water	03/12/18 11:26	03/13/18 14:40
400-150790-2	MW-107	Water	03/12/18 09:40	03/13/18 14:40
400-150790-3	MW-108	Water	03/12/18 07:56	03/13/18 14:40
400-150790-4	MW-306	Water	03/12/18 12:53	03/13/18 14:40
400-150790-5	MW-307	Water	03/12/18 15:21	03/13/18 14:40
400-150790-6	DUP-01	Water	03/12/18 14:21	03/13/18 14:40

Client Sample Results

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-100

Date Collected: 03/12/18 11:26
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-1

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	0.370		0.105	0.110	1.00	0.0778	pCi/L	03/16/18 09:35	04/09/18 09:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*03/16/18 09:35*	*04/09/18 09:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.563		0.282	0.286	1.00	0.422	pCi/L	03/16/18 10:05	03/26/18 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:53*	*1*
Y Carrier	*92.3*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:53*	*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	0.933		0.301	0.306	5.00	0.422	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-107

Date Collected: 03/12/18 09:40
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-2

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.442		0.112	0.119	1.00	0.0751	pCi/L	03/16/18 09:35	04/09/18 09:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*03/16/18 09:35*	*04/09/18 09:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.650		0.269	0.275	1.00	0.380	pCi/L	03/16/18 10:05	03/26/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.3*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*1*
Y Carrier	*86.7*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*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	1.09		0.291	0.300	5.00	0.380	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-108

Date Collected: 03/12/18 07:56
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-3

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	0.439		0.108	0.115	1.00	0.0602	pCi/L	03/16/18 09:35	04/09/18 09:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*03/16/18 09:35*	*04/09/18 09:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.53		0.313	0.343	1.00	0.352	pCi/L	03/16/18 10:05	03/26/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*1*
Y Carrier	*92.7*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*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	1.97		0.331	0.362	5.00	0.352	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-306

Date Collected: 03/12/18 12:53
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-4

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	0.220		0.0881	0.0903	1.00	0.0761	pCi/L	03/16/18 09:35	04/09/18 09:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.6*		*40 - 110*	*03/16/18 09:35*	*04/09/18 09:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.563		0.255	0.260	1.00	0.367	pCi/L	03/16/18 10:05	03/26/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.6*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*1*
Y Carrier	*90.1*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*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	0.783		0.270	0.275	5.00	0.367	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-307

Date Collected: 03/12/18 15:21
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.194		0.0831	0.0849	1.00	0.0882	pCi/L	03/16/18 09:35	04/09/18 09:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*03/16/18 09:35*	*04/09/18 09:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.654		0.325	0.330	1.00	0.490	pCi/L	03/16/18 10:05	03/26/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*1*
Y Carrier	*91.2*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*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	0.848		0.335	0.341	5.00	0.490	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: DUP-01

Date Collected: 03/12/18 14:21
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-6

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.204		0.0789	0.0810	1.00	0.0739	pCi/L	03/16/18 09:35	04/09/18 09:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/16/18 09:35*	*04/09/18 09:55*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.566		0.261	0.266	1.00	0.383	pCi/L	03/16/18 10:05	03/26/18 14:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*1*
Y Carrier	*94.2*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:54*	*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	0.769		0.273	0.278	5.00	0.383	pCi/L		04/10/18 14:48	1

Definitions/Glossary

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

TestAmerica Job ID: 400-150790-2
SDG: Background

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 Plant Crist

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-150790-1

Date Collected: 03/12/18 11:26
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356125	03/16/18 09:35	TJT	TAL SL
Total/NA	Analysis	9315		1	359688	04/09/18 09:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356132	03/16/18 10:05	TJT	TAL SL
Total/NA	Analysis	9320		1	357534	03/26/18 14:53	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-107 — Lab Sample ID: 400-150790-2

Date Collected: 03/12/18 09:40
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356125	03/16/18 09:35	TJT	TAL SL
Total/NA	Analysis	9315		1	359688	04/09/18 09:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356132	03/16/18 10:05	TJT	TAL SL
Total/NA	Analysis	9320		1	357534	03/26/18 14:54	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-108 — Lab Sample ID: 400-150790-3

Date Collected: 03/12/18 07:56
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356125	03/16/18 09:35	TJT	TAL SL
Total/NA	Analysis	9315		1	359688	04/09/18 09:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356132	03/16/18 10:05	TJT	TAL SL
Total/NA	Analysis	9320		1	357534	03/26/18 14:54	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-306 — Lab Sample ID: 400-150790-4

Date Collected: 03/12/18 12:53
Date Received: 03/13/18 14:40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356125	03/16/18 09:35	TJT	TAL SL
Total/NA	Analysis	9315		1	359688	04/09/18 09:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356132	03/16/18 10:05	TJT	TAL SL
Total/NA	Analysis	9320		1	357534	03/26/18 14:54	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-150790-2
SDG: Background

Client Sample ID: MW-307

Lab Sample ID: 400-150790-5
Date Collected: 03/12/18 15:21
Matrix: Water
Date Received: 03/13/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356125	03/16/18 09:35	TJT	TAL SL
Total/NA	Analysis	9315		1	359688	04/09/18 09:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356132	03/16/18 10:05	TJT	TAL SL
Total/NA	Analysis	9320		1	357534	03/26/18 14:54	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: DUP-01

Lab Sample ID: 400-150790-6
Date Collected: 03/12/18 14:21
Matrix: Water
Date Received: 03/13/18 14:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356125	03/16/18 09:35	TJT	TAL SL
Total/NA	Analysis	9315		1	359688	04/09/18 09:55	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356132	03/16/18 10:05	TJT	TAL SL
Total/NA	Analysis	9320		1	357534	03/26/18 14:54	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	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 Plant Crist

TestAmerica Job ID: 400-150790-2
SDG: Background

Rad

Prep Batch: 356125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	PrecSep-21	
400-150790-2	MW-107	Total/NA	Water	PrecSep-21	
400-150790-3	MW-108	Total/NA	Water	PrecSep-21	
400-150790-4	MW-306	Total/NA	Water	PrecSep-21	
400-150790-5	MW-307	Total/NA	Water	PrecSep-21	
400-150790-6	DUP-01	Total/NA	Water	PrecSep-21	
MB 160-356125/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-356125/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-356125/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 356132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150790-1	MW-100	Total/NA	Water	PrecSep_0	
400-150790-2	MW-107	Total/NA	Water	PrecSep_0	
400-150790-3	MW-108	Total/NA	Water	PrecSep_0	
400-150790-4	MW-306	Total/NA	Water	PrecSep_0	
400-150790-5	MW-307	Total/NA	Water	PrecSep_0	
400-150790-6	DUP-01	Total/NA	Water	PrecSep_0	
MB 160-356132/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-356132/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-356132/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-356125/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359686 — **Prep Batch: 356125**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01872	U	0.0333	0.0334	1.00	0.0872	pCi/L	03/16/18 09:36	04/09/18 09:58	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/16/18 09:36*	*04/09/18 09:58*	*1*

Lab Sample ID: LCS 160-356125/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359688 — **Prep Batch: 356125**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.93		1.11	1.00	0.0682	pCi/L	93	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Lab Sample ID: LCSD 160-356125/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359688 — **Prep Batch: 356125**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.30		1.05	1.00	0.0764	pCi/L	87	68 - 137	0.29	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-356132/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 357685 — **Prep Batch: 356132**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4085		0.250	0.253	1.00	0.384	pCi/L	03/16/18 10:05	03/26/18 14:57	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:57*	*1*
Y Carrier	*92.0*		*40 - 110*	*03/16/18 10:05*	*03/26/18 14:57*	*1*

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

Lab Sample ID: LCS 160-356132/1-A
Matrix: Water
Analysis Batch: 357534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 356132

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.45	9.297		1.06	1.00	0.341	pCi/L	110	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*
Y Carrier	*90.1*		*40 - 110*

Lab Sample ID: LCSD 160-356132/2-A
Matrix: Water
Analysis Batch: 357534

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 356132

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.45	8.578		0.991	1.00	0.333	pCi/L	102	56 - 140	0.35	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*
Y Carrier	*90.8*		*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 Swales	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-1
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 Plant Crist	Project #: 40005424			
Site: Background	SSOW#:			

Analysis Requested

400-150790 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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-100	3/12/18	1126	G	Water			X	X	X	X		
MW-107	3/12/18	0940	G	Water			X	X	X	X		
MW-108	3/12/18	0756	G	Water			X	X	X	X		
MW-306	3/12/18	1253	G	Water			X	X	X	X		
MW-307	3/12/18	1521	G	Water			X	X	X	X		
Dup-01	3/12/18	1421	G	W			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
	3/13/18 1440	RDH		3/13/17 1440	
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: 400-150790-2
SDG Number: Background

Login Number: 150790
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 IR7
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: 400-150790-2
SDG Number: Background

Login Number: 150790
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 03/15/18 01:17 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.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1,0.7
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?	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 Plant Crist

TestAmerica Job ID: 400-150790-2
SDG: Background

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
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
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
New Jersey	NELAP	2	MO002	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
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: 400-150861-1
TestAmerica Sample Delivery Group: Landfill 1
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
4/12/2018 11:03:51 AM

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

LINKS

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

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

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

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: 400-150861-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-150861-1

Metals
Method(s) 6020: The method blank for preparation batch 391369 and analytical batch 391638 contained Selenium 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) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 391369 and analytical batch 391638 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-104 (400-150861-4) and MW-110 (400-150861-8). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The method blank for preparation batch 392233 and analytical batch 392873 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries 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-104 (400-150861-4), (400-150860-A-1), (400-150860-A-1 MS), (400-150860-A-1 MSD) and MW-110 (400-150861-8). Elevated reporting limits (RLs) are provided.

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 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-103 (400-150861-3), MW-104 (400-150861-4) and MW-110 (400-150861-8). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-391847 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Detection Summary

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-101 — Lab Sample ID: 400-150861-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0089		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.49		0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.00067	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.000093	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	8.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.12		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Field pH	5.14				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-102 — Lab Sample ID: 400-150861-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0084		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.63		0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.0010	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.000094	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	14		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.08				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-103 — Lab Sample ID: 400-150861-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.052		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.32		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	3.9		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0020	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0032		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.00012	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	66		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	7.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	38		10	2.8	mg/L	2		SM 4500 SO4 E	Total/NA
Field pH	4.89				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-104 — Lab Sample ID: 400-150861-4

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	0.025		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0011	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-104 (Continued) — Lab Sample ID: 400-150861-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00052	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	55		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0023	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.014		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lead	0.0023		0.0013	0.00035	mg/L	5		6020	Total Recoverable
Lithium	0.028		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0057		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00021	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	11		1.0	0.42	mg/L	100		6020	Total Recoverable
Mercury	0.0011		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	1100		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	160		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.30		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	540		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	4.2				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-105 — Lab Sample ID: 400-150861-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0039		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.038		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.70		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	62		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0022	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0054	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00060	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	300		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	45		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	22		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.29				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-106 — Lab Sample ID: 400-150861-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0096		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.47		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 Plant Crist

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-106 (Continued) — Lab Sample ID: 400-150861-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.00044	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Mercury	0.000080	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Chloride	3.7		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.28				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-109 — Lab Sample ID: 400-150861-7

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
Calcium	3.1		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0038		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0059		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Mercury	0.000097	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	12		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.9	V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	9.7		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.71				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-110 — Lab Sample ID: 400-150861-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00056	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.036		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	35		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.012		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.012		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0038		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00029	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	4.6		0.50	0.21	mg/L	50		6020	Total Recoverable
Mercury	0.0059		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	660		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	140		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Sulfate	270		50	14	mg/L	10		SM 4500 SO4 E	Total/NA
Field pH	4.75				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-03 — Lab Sample ID: 400-150861-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0039		0.0013	0.00046	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: DUP-03 (Continued) — Lab Sample ID: 400-150861-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.038		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.71		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	65		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0027		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.00040	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Molybdenum	0.0052	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00034	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	4.0	I	5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	1.3	I V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: EB-03 — Lab Sample ID: 400-150861-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.87		0.25	0.13	mg/L	5		6020	Total Recoverable
Lead	0.00048	I	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Mercury	0.000088	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Chloride	1.3	I V	2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA

Client Sample ID: FB-03 — Lab Sample ID: 400-150861-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.00011	I V	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	6.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	46		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	22		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

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 Plant Crist

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-150861-1	MW-101	Water	03/14/18 08:46	03/14/18 18:30
400-150861-2	MW-102	Water	03/14/18 14:17	03/14/18 18:30
400-150861-3	MW-103	Water	03/14/18 17:50	03/14/18 18:30
400-150861-4	MW-104	Water	03/14/18 15:55	03/14/18 18:30
400-150861-5	MW-105	Water	03/14/18 12:45	03/14/18 18:30
400-150861-6	MW-106	Water	03/14/18 10:32	03/14/18 18:30
400-150861-7	MW-109	Water	03/14/18 16:23	03/14/18 18:30
400-150861-8	MW-110	Water	03/14/18 14:38	03/14/18 18:30
400-150861-9	DUP-03	Water	03/14/18 11:45	03/14/18 18:30
400-150861-10	EB-03	Water	03/14/18 15:45	03/14/18 18:30
400-150861-11	FB-03	Water	03/14/18 12:00	03/14/18 18:30

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-101

Date Collected: 03/14/18 08:46
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-1

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		03/25/18 13:50	03/26/18 18:23	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 18:23	5
Barium	**0.0089**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 18:23	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:23	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 18:23	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:23	5
Calcium	**0.49**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 18:23	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 18:23	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 18:23	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 18:23	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 18:23	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 18:23	5
Selenium	**0.00067**	**I V**	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 18:23	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 18:23	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000093**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8.0**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**5.2**		2.0	0.60	mg/L			03/20/18 14:51	1
Fluoride	**0.12**		0.10	0.032	mg/L			03/29/18 13:20	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:34	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.14**				SU			03/14/18 08:46	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-102

Date Collected: 03/14/18 14:17
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-2

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		03/25/18 13:50	03/26/18 18:45	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 18:45	5
Barium	**0.0084**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 18:45	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:45	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 18:45	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:45	5
Calcium	**0.63**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 18:45	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 18:45	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 18:45	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 18:45	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 18:45	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 18:45	5
Selenium	**0.0010**	**I V**	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 18:45	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 18:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000094**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**14**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**5.2**		2.0	0.60	mg/L			03/20/18 14:57	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:23	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:34	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.08**				SU			03/14/18 14:17	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-103

Date Collected: 03/14/18 17:50
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-3

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		03/25/18 13:50	03/26/18 18:50	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 18:50	5
Barium	**0.052**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 18:50	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:50	5
Boron	**0.32**		0.050	0.021	mg/L		03/25/18 13:50	03/26/18 18:50	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:50	5
Calcium	**3.9**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 18:50	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 18:50	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 18:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 18:50	5
Lithium	**0.0020**	**I**	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 18:50	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 18:50	5
Selenium	**0.0032**		0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 18:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 18:50	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00012**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**66**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**7.7**		2.0	0.60	mg/L			03/20/18 14:57	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:27	1
Sulfate	**38**		10	2.8	mg/L			03/28/18 12:00	2

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.89**				SU			03/14/18 17:50	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-104

Date Collected: 03/14/18 15:55
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-4

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		03/25/18 13:50	03/26/18 18:54	5
Arsenic	**0.0027**		0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 18:54	5
Barium	**0.025**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 18:54	5
Beryllium	**0.0011**	**I**	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:54	5
Cadmium	**0.00052**	**I**	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:54	5
Calcium	**55**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 18:54	5
Chromium	**0.0023**	**I**	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 18:54	5
Cobalt	**0.014**		0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 18:54	5
Lead	**0.0023**		0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 18:54	5
Lithium	**0.028**		0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 18:54	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 18:54	5
Selenium	**0.0057**		0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 18:54	5
Thallium	**0.00021**	**I**	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 18:54	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		03/25/18 13:50	03/27/18 13:55	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0011**		0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:18	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1100**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**160**		10	3.0	mg/L			03/20/18 15:29	5
Fluoride	**0.30**		0.10	0.032	mg/L			03/29/18 10:08	1
Sulfate	**540**		100	28	mg/L			03/28/18 12:29	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.2**				SU			03/14/18 15:55	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-105

Date Collected: 03/14/18 12:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-5

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		03/25/18 13:50	03/26/18 19:21	5
Arsenic	**0.0039**		0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:21	5
Barium	**0.038**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:21	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:21	5
Boron	**0.70**		0.050	0.021	mg/L		03/25/18 13:50	03/26/18 19:21	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:21	5
Calcium	**62**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:21	5
Chromium	**0.0022**	**I**	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:21	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:21	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:21	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:21	5
Molybdenum	**0.0054**	**I**	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:21	5
Selenium	**0.00060**	**I V**	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:21	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:21	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	04/05/18 11:20	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**300**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**45**		2.0	0.60	mg/L			03/20/18 14:57	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:30	1
Sulfate	**22**		5.0	1.4	mg/L			03/28/18 11:39	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.29**				SU			03/14/18 12:45	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-106

Date Collected: 03/14/18 10:32
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-6

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		03/25/18 13:50	03/26/18 19:26	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:26	5
Barium	**0.0096**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:26	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:26	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 19:26	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:26	5
Calcium	**0.47**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:26	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:26	5
Cobalt	**0.00044**	**I**	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:26	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:26	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:26	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:26	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:26	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:26	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000080**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:22	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			03/17/18 17:26	1
Chloride	**3.7**		2.0	0.60	mg/L			03/20/18 14:57	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:33	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:39	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.28**				SU			03/14/18 10:32	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-109

Date Collected: 03/14/18 16:23
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-7

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		03/25/18 13:50	03/26/18 19:30	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:30	5
Barium	**0.017**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:30	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:30	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 19:30	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:30	5
Calcium	**3.1**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:30	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:30	5
Cobalt	**0.0038**		0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:30	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:30	5
Lithium	**0.0059**		0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:30	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:30	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:30	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000097**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**12**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**6.9**	**V**	2.0	0.60	mg/L			04/02/18 09:32	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:37	1
Sulfate	**9.7**		5.0	1.4	mg/L			03/28/18 11:39	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.71**				SU			03/14/18 16:23	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-110

Date Collected: 03/14/18 14:38
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-8

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		03/25/18 13:50	03/26/18 19:35	5
Arsenic	**0.00056**	**I**	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:35	5
Barium	**0.036**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:35	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:35	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:35	5
Calcium	**35**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:35	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:35	5
Cobalt	**0.012**		0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:35	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:35	5
Lithium	**0.012**		0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:35	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:35	5
Selenium	**0.0038**		0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:35	5
Thallium	**0.00029**	**I**	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:35	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.6**		0.50	0.21	mg/L		03/25/18 13:50	03/27/18 14:00	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0059**		0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:25	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**660**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**140**		10	3.0	mg/L			04/02/18 09:43	5
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:41	1
Sulfate	**270**		50	14	mg/L			03/28/18 12:09	10

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.75**				SU			03/14/18 14:38	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: DUP-03

Date Collected: 03/14/18 11:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-9

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		03/25/18 13:50	03/26/18 19:48	5
Arsenic	**0.0039**		0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:48	5
Barium	**0.038**		0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:48	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:48	5
Boron	**0.71**		0.050	0.021	mg/L		03/25/18 13:50	03/26/18 19:48	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:48	5
Calcium	**65**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:48	5
Chromium	**0.0027**		0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:48	5
Cobalt	**0.00040**	**I**	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:48	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:48	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:48	5
Molybdenum	**0.0052**	**I**	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:48	5
Selenium	**0.00034**	**I V**	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:48	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:48	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	04/05/18 11:53	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4.0**	**I**	5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**1.3**	**I V**	2.0	0.60	mg/L			04/02/18 09:31	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:51	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:30	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: EB-03

Date Collected: 03/14/18 15:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-10

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		03/25/18 13:50	03/26/18 19:44	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:44	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:44	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:44	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 19:44	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:44	5
Calcium	**0.87**		0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:44	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:44	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:44	5
Lead	**0.00048**	**I**	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:44	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:44	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:44	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:44	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:44	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000088**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:55	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			03/17/18 17:26	1
Chloride	**1.3**	**I V**	2.0	0.60	mg/L			04/02/18 09:31	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:56	1
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:35	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: FB-03

Date Collected: 03/14/18 12:00
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-11

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		03/25/18 13:50	03/26/18 19:39	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 19:39	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 19:39	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:39	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 19:39	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 19:39	5
Calcium	0.13	U	0.25	0.13	mg/L		03/25/18 13:50	03/26/18 19:39	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 19:39	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 19:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 19:39	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 19:39	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 19:39	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 19:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 19:39	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00011**	**I V**	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 11:57	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6.0**		5.0	3.4	mg/L			03/17/18 17:26	1
Chloride	**46**		2.0	0.60	mg/L			04/02/18 09:31	1
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 10:59	1
Sulfate	**22**		5.0	1.4	mg/L			04/03/18 09:48	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.
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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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.
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 Plant Crist

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-101 — Lab Sample ID: 400-150861-1

Date Collected: 03/14/18 08:46
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 18:23	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:13	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390817	03/20/18 14:51	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	392016	03/29/18 13:20	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:34	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 08:46	AW	TAL PEN

Client Sample ID: MW-102 — Lab Sample ID: 400-150861-2

Date Collected: 03/14/18 14:17
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 18:45	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:15	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390817	03/20/18 14:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:23	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:34	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 14:17	AW	TAL PEN

Client Sample ID: MW-103 — Lab Sample ID: 400-150861-3

Date Collected: 03/14/18 17:50
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 18:50	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:16	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390817	03/20/18 14:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:27	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		2	391847	03/28/18 12:00	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 17:50	AW	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-104
Date Collected: 03/14/18 15:55
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 18:54	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	100	391757	03/27/18 13:55	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:18	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	390817	03/20/18 15:29	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:08	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	391847	03/28/18 12:29	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 15:55	AW	TAL PEN

Client Sample ID: MW-105
Date Collected: 03/14/18 12:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:21	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:20	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390817	03/20/18 14:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:30	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:39	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 12:45	AW	TAL PEN

Client Sample ID: MW-106
Date Collected: 03/14/18 10:32
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:26	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:22	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	390817	03/20/18 14:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:33	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:39	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 10:32	AW	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: MW-109
Date Collected: 03/14/18 16:23
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:30	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:24	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392314	04/02/18 09:32	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:37	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:39	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 16:23	AW	TAL PEN

Client Sample ID: MW-110
Date Collected: 03/14/18 14:38
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:35	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020	DL	50	391757	03/27/18 14:00	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:25	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	392314	04/02/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:41	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		10	391847	03/28/18 12:09	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	393575	03/14/18 14:38	AW	TAL PEN

Client Sample ID: DUP-03
Date Collected: 03/14/18 11:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:48	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:53	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392314	04/02/18 09:31	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:51	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:30	RRC	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Client Sample ID: EB-03

Lab Sample ID: 400-150861-10
Date Collected: 03/14/18 15:45
Matrix: Water
Date Received: 03/14/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:44	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:55	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392314	04/02/18 09:31	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:56	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	391847	03/28/18 11:35	RRC	TAL PEN

Client Sample ID: FB-03

Lab Sample ID: 400-150861-11
Date Collected: 03/14/18 12:00
Matrix: Water
Date Received: 03/14/18 18:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			391369	03/25/18 13:50	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	391638	03/26/18 19:39	DRE	TAL PEN
Total/NA	Prep	7470A			392233	03/31/18 15:08	DN1	TAL PEN
Total/NA	Analysis	7470A		1	392873	04/05/18 11:57	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	390491	03/17/18 17:26	TET	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	392314	04/02/18 09:31	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	391977	03/29/18 10:59	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	392490	04/03/18 09:48	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 Plant Crist

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Metals

Prep Batch: 391369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total Recoverable	Water	3005A	
400-150861-2	MW-102	Total Recoverable	Water	3005A	
400-150861-3	MW-103	Total Recoverable	Water	3005A	
400-150861-4 - DL	MW-104	Total Recoverable	Water	3005A	
400-150861-4	MW-104	Total Recoverable	Water	3005A	
400-150861-5	MW-105	Total Recoverable	Water	3005A	
400-150861-6	MW-106	Total Recoverable	Water	3005A	
400-150861-7	MW-109	Total Recoverable	Water	3005A	
400-150861-8 - DL	MW-110	Total Recoverable	Water	3005A	
400-150861-8	MW-110	Total Recoverable	Water	3005A	
400-150861-9	DUP-03	Total Recoverable	Water	3005A	
400-150861-10	EB-03	Total Recoverable	Water	3005A	
400-150861-11	FB-03	Total Recoverable	Water	3005A	
MB 400-391369/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-391369/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-150861-1 MS	MW-101	Total Recoverable	Water	3005A	
400-150861-1 MSD	MW-101	Total Recoverable	Water	3005A	

Analysis Batch: 391638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total Recoverable	Water	6020	391369
400-150861-2	MW-102	Total Recoverable	Water	6020	391369
400-150861-3	MW-103	Total Recoverable	Water	6020	391369
400-150861-4	MW-104	Total Recoverable	Water	6020	391369
400-150861-5	MW-105	Total Recoverable	Water	6020	391369
400-150861-6	MW-106	Total Recoverable	Water	6020	391369
400-150861-7	MW-109	Total Recoverable	Water	6020	391369
400-150861-8	MW-110	Total Recoverable	Water	6020	391369
400-150861-9	DUP-03	Total Recoverable	Water	6020	391369
400-150861-10	EB-03	Total Recoverable	Water	6020	391369
400-150861-11	FB-03	Total Recoverable	Water	6020	391369
MB 400-391369/1-A ^5	Method Blank	Total Recoverable	Water	6020	391369
LCS 400-391369/2-A	Lab Control Sample	Total Recoverable	Water	6020	391369
400-150861-1 MS	MW-101	Total Recoverable	Water	6020	391369
400-150861-1 MSD	MW-101	Total Recoverable	Water	6020	391369

Analysis Batch: 391757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-4 - DL	MW-104	Total Recoverable	Water	6020	391369
400-150861-8 - DL	MW-110	Total Recoverable	Water	6020	391369

Prep Batch: 392233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	7470A	
400-150861-2	MW-102	Total/NA	Water	7470A	
400-150861-3	MW-103	Total/NA	Water	7470A	
400-150861-4	MW-104	Total/NA	Water	7470A	
400-150861-5	MW-105	Total/NA	Water	7470A	
400-150861-6	MW-106	Total/NA	Water	7470A	
400-150861-7	MW-109	Total/NA	Water	7470A	
400-150861-8	MW-110	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 392233 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-9	DUP-03	Total/NA	Water	7470A	
400-150861-10	EB-03	Total/NA	Water	7470A	
400-150861-11	FB-03	Total/NA	Water	7470A	
MB 400-392233/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-392233/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151309-A-1-C MS	Matrix Spike	Total/NA	Water	7470A	
400-151309-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 392873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	7470A	392233
400-150861-2	MW-102	Total/NA	Water	7470A	392233
400-150861-3	MW-103	Total/NA	Water	7470A	392233
400-150861-4	MW-104	Total/NA	Water	7470A	392233
400-150861-5	MW-105	Total/NA	Water	7470A	392233
400-150861-6	MW-106	Total/NA	Water	7470A	392233
400-150861-7	MW-109	Total/NA	Water	7470A	392233
400-150861-8	MW-110	Total/NA	Water	7470A	392233
400-150861-9	DUP-03	Total/NA	Water	7470A	392233
400-150861-10	EB-03	Total/NA	Water	7470A	392233
400-150861-11	FB-03	Total/NA	Water	7470A	392233
MB 400-392233/14-A	Method Blank	Total/NA	Water	7470A	392233
LCS 400-392233/15-A	Lab Control Sample	Total/NA	Water	7470A	392233
400-151309-A-1-C MS	Matrix Spike	Total/NA	Water	7470A	392233
400-151309-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	392233

General Chemistry

Analysis Batch: 390491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	SM 2540C	
400-150861-2	MW-102	Total/NA	Water	SM 2540C	
400-150861-3	MW-103	Total/NA	Water	SM 2540C	
400-150861-4	MW-104	Total/NA	Water	SM 2540C	
400-150861-5	MW-105	Total/NA	Water	SM 2540C	
400-150861-6	MW-106	Total/NA	Water	SM 2540C	
400-150861-7	MW-109	Total/NA	Water	SM 2540C	
400-150861-8	MW-110	Total/NA	Water	SM 2540C	
400-150861-9	DUP-03	Total/NA	Water	SM 2540C	
400-150861-10	EB-03	Total/NA	Water	SM 2540C	
400-150861-11	FB-03	Total/NA	Water	SM 2540C	
MB 400-390491/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-390491/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-150861-6 DU	MW-106	Total/NA	Water	SM 2540C	

Analysis Batch: 390817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	SM 4500 Cl- E	
400-150861-2	MW-102	Total/NA	Water	SM 4500 Cl- E	
400-150861-3	MW-103	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 390817 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-4	MW-104	Total/NA	Water	SM 4500 Cl- E	
400-150861-5	MW-105	Total/NA	Water	SM 4500 Cl- E	
400-150861-6	MW-106	Total/NA	Water	SM 4500 Cl- E	
MB 400-390817/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-390817/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-390817/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-150861-1 MS	MW-101	Total/NA	Water	SM 4500 Cl- E	
400-150861-1 MSD	MW-101	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 391847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	SM 4500 SO4 E	
400-150861-2	MW-102	Total/NA	Water	SM 4500 SO4 E	
400-150861-3	MW-103	Total/NA	Water	SM 4500 SO4 E	
400-150861-4	MW-104	Total/NA	Water	SM 4500 SO4 E	
400-150861-5	MW-105	Total/NA	Water	SM 4500 SO4 E	
400-150861-6	MW-106	Total/NA	Water	SM 4500 SO4 E	
400-150861-7	MW-109	Total/NA	Water	SM 4500 SO4 E	
400-150861-8	MW-110	Total/NA	Water	SM 4500 SO4 E	
400-150861-9	DUP-03	Total/NA	Water	SM 4500 SO4 E	
400-150861-10	EB-03	Total/NA	Water	SM 4500 SO4 E	
MB 400-391847/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-391847/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-391847/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-150861-3 MS	MW-103	Total/NA	Water	SM 4500 SO4 E	
400-150861-3 MSD	MW-103	Total/NA	Water	SM 4500 SO4 E	
400-151360-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151360-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 391977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-2	MW-102	Total/NA	Water	SM 4500 F C	
400-150861-3	MW-103	Total/NA	Water	SM 4500 F C	
400-150861-4	MW-104	Total/NA	Water	SM 4500 F C	
400-150861-5	MW-105	Total/NA	Water	SM 4500 F C	
400-150861-6	MW-106	Total/NA	Water	SM 4500 F C	
400-150861-7	MW-109	Total/NA	Water	SM 4500 F C	
400-150861-8	MW-110	Total/NA	Water	SM 4500 F C	
400-150861-9	DUP-03	Total/NA	Water	SM 4500 F C	
400-150861-10	EB-03	Total/NA	Water	SM 4500 F C	
400-150861-11	FB-03	Total/NA	Water	SM 4500 F C	
MB 400-391977/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-391977/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-150861-4 MS	MW-104	Total/NA	Water	SM 4500 F C	
400-150861-4 MSD	MW-104	Total/NA	Water	SM 4500 F C	
400-150861-9 DU	DUP-03	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	SM 4500 F C	
MB 400-392016/3	Method Blank	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 392016 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-392016/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
660-86203-C-4 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
660-86203-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 392314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-7	MW-109	Total/NA	Water	SM 4500 Cl- E	
400-150861-8	MW-110	Total/NA	Water	SM 4500 Cl- E	
400-150861-9	DUP-03	Total/NA	Water	SM 4500 Cl- E	
400-150861-10	EB-03	Total/NA	Water	SM 4500 Cl- E	
400-150861-11	FB-03	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	
400-150861-7 MS	MW-109	Total/NA	Water	SM 4500 Cl- E	
400-150861-7 MSD	MW-109	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 392490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-11	FB-03	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	
400-151411-E-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-151411-E-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
400-150861-1	MW-101	Total/NA	Water	Field Sampling	
400-150861-2	MW-102	Total/NA	Water	Field Sampling	
400-150861-3	MW-103	Total/NA	Water	Field Sampling	
400-150861-4	MW-104	Total/NA	Water	Field Sampling	
400-150861-5	MW-105	Total/NA	Water	Field Sampling	
400-150861-6	MW-106	Total/NA	Water	Field Sampling	
400-150861-7	MW-109	Total/NA	Water	Field Sampling	
400-150861-8	MW-110	Total/NA	Water	Field Sampling	

QC Sample Results

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

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-391369/1-A ^5
Matrix: Water
Analysis Batch: 391638

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 391369

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		03/25/18 13:50	03/26/18 18:09	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		03/25/18 13:50	03/26/18 18:09	5
Barium	0.00049	U	0.0025	0.00049	mg/L		03/25/18 13:50	03/26/18 18:09	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:09	5
Boron	0.021	U	0.050	0.021	mg/L		03/25/18 13:50	03/26/18 18:09	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		03/25/18 13:50	03/26/18 18:09	5
Calcium	0.13	U	0.25	0.13	mg/L		03/25/18 13:50	03/26/18 18:09	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		03/25/18 13:50	03/26/18 18:09	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		03/25/18 13:50	03/26/18 18:09	5
Lead	0.00035	U	0.0013	0.00035	mg/L		03/25/18 13:50	03/26/18 18:09	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		03/25/18 13:50	03/26/18 18:09	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		03/25/18 13:50	03/26/18 18:09	5
Selenium	0.000275	I	0.0013	0.00024	mg/L		03/25/18 13:50	03/26/18 18:09	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		03/25/18 13:50	03/26/18 18:09	5

Lab Sample ID: LCS 400-391369/2-A
Matrix: Water
Analysis Batch: 391638

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 391369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0530		mg/L		106	80 - 120
Arsenic	0.0500	0.0522		mg/L		104	80 - 120
Barium	0.0500	0.0484		mg/L		97	80 - 120
Beryllium	0.0500	0.0538		mg/L		108	80 - 120
Boron	0.100	0.109		mg/L		109	80 - 120
Cadmium	0.0500	0.0510		mg/L		102	80 - 120
Calcium	5.00	5.71		mg/L		114	80 - 120
Chromium	0.0500	0.0534		mg/L		107	80 - 120
Cobalt	0.0500	0.0511		mg/L		102	80 - 120
Lead	0.0500	0.0481		mg/L		96	80 - 120
Lithium	0.0500	0.0524		mg/L		105	80 - 120
Molybdenum	0.0500	0.0523		mg/L		105	80 - 120
Selenium	0.0500	0.0501		mg/L		100	80 - 120
Thallium	0.0100	0.00956		mg/L		96	80 - 120

Lab Sample ID: 400-150861-1 MS
Matrix: Water
Analysis Batch: 391638

Client Sample ID: MW-101
Prep Type: Total Recoverable
Prep Batch: 391369

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	0.0522		mg/L		104	75 - 125
Barium	0.0089		0.0500	0.0593		mg/L		101	75 - 125
Beryllium	0.00034	U	0.0500	0.0543		mg/L		109	75 - 125
Boron	0.021	U	0.100	0.104		mg/L		104	75 - 125
Cadmium	0.00034	U	0.0500	0.0523		mg/L		105	75 - 125
Calcium	0.49		5.00	6.14		mg/L		113	75 - 125
Chromium	0.0011	U	0.0500	0.0534		mg/L		107	75 - 125

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

Lab Sample ID: 400-150861-1 MS — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 391638 — **Prep Batch: 391369**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	U	0.0500	0.0519		mg/L		104	75 - 125
Lead	0.00035	U	0.0500	0.0482		mg/L		96	75 - 125
Lithium	0.0011	U	0.0500	0.0673	J3	mg/L		135	75 - 125
Molybdenum	0.00085	U	0.0500	0.0552		mg/L		110	75 - 125
Selenium	0.00067	I V	0.0500	0.0519		mg/L		102	75 - 125
Thallium	0.000085	U	0.0100	0.00996		mg/L		100	75 - 125

Lab Sample ID: 400-150861-1 MSD — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 391638 — **Prep Batch: 391369**

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	0.0539		mg/L		108	75 - 125	3	20
Arsenic	0.00046	U	0.0500	0.0515		mg/L		103	75 - 125	1	20
Barium	0.0089		0.0500	0.0579		mg/L		98	75 - 125	2	20
Beryllium	0.00034	U	0.0500	0.0540		mg/L		108	75 - 125	0	20
Boron	0.021	U	0.100	0.0990		mg/L		99	75 - 125	4	20
Cadmium	0.00034	U	0.0500	0.0544		mg/L		109	75 - 125	4	20
Calcium	0.49		5.00	6.14		mg/L		113	75 - 125	0	20
Chromium	0.0011	U	0.0500	0.0529		mg/L		106	75 - 125	1	20
Cobalt	0.00040	U	0.0500	0.0518		mg/L		104	75 - 125	0	20
Lead	0.00035	U	0.0500	0.0475		mg/L		95	75 - 125	1	20
Lithium	0.0011	U	0.0500	0.0661	J3	mg/L		132	75 - 125	2	20
Molybdenum	0.00085	U	0.0500	0.0541		mg/L		108	75 - 125	2	20
Selenium	0.00067	I V	0.0500	0.0506		mg/L		100	75 - 125	3	20
Thallium	0.000085	U	0.0100	0.00964		mg/L		96	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-392233/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392873 — **Prep Batch: 392233**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0000922	I	0.00020	0.000070	mg/L		03/31/18 15:08	04/05/18 10:37	1

Lab Sample ID: LCS 400-392233/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392873 — **Prep Batch: 392233**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.00114		mg/L		114	80 - 120

Lab Sample ID: 400-151309-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392873 — **Prep Batch: 392233**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00228		mg/L		113	80 - 120

Lab Sample ID: 400-151309-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392873 — **Prep Batch: 392233**

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	0.00215		mg/L		107	80 - 120	6	20

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

Lab Sample ID: MB 400-390491/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390491

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			03/17/18 17:26	1

Lab Sample ID: LCS 400-390491/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390491

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	288		mg/L		98	78 - 122

Lab Sample ID: 400-150861-6 DU — **Client Sample ID: MW-106**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390491

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 400-390817/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390817

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			03/20/18 14:48	1

Lab Sample ID: LCS 400-390817/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	30.4		mg/L		101	90 - 110

Lab Sample ID: MRL 400-390817/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390817

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.81	I	mg/L		90	50 - 150

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

Lab Sample ID: 400-150861-1 MS — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	5.2		10.0	4.89	J3	mg/L		-3	73 - 120		

Lab Sample ID: 400-150861-1 MSD — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 390817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.2		10.0	4.63	J3	mg/L		-5	73 - 120	6	8

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: 400-150861-7 MS — **Client Sample ID: MW-109**
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		

Lab Sample ID: 400-150861-7 MSD — **Client Sample ID: MW-109**
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

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-391977/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391977

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 09:56	1

Lab Sample ID: LCS 400-391977/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391977

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: 400-150861-4 MS — **Client Sample ID: MW-104**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.30		1.00	1.24		mg/L		94	75 - 125

Lab Sample ID: 400-150861-4 MSD — **Client Sample ID: MW-104**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391977

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.30		1.00	1.24		mg/L		94	75 - 125	0	4

Lab Sample ID: 400-150861-9 DU — **Client Sample ID: DUP-03**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391977

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 400-392016/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392016

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 12:46	1

Lab Sample ID: LCS 400-392016/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392016

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: 660-86203-C-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.12		1.00	1.21		mg/L		109	75 - 125

Lab Sample ID: 660-86203-C-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 392016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.12		1.00	1.21		mg/L		109	75 - 125	0	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-391847/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:24	1

Lab Sample ID: LCS 400-391847/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

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 400-391847/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.53	I	mg/L		91	50 - 150

Lab Sample ID: 400-150861-3 MS — **Client Sample ID: MW-103**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	38		20.0	45.6	J3	mg/L		40	77 - 128

Lab Sample ID: 400-150861-3 MSD — **Client Sample ID: MW-103**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	38		20.0	44.6	J3	mg/L		35	77 - 128	2	5

Lab Sample ID: 400-151360-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.1		10.0	16.7		mg/L		116	77 - 128

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

Lab Sample ID: 400-151360-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 391847

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	5.1		10.0	16.8		mg/L		117	77 - 128	0	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: 400-151411-E-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	1.4	U	10.0	8.54		mg/L		85	77 - 128

Lab Sample ID: 400-151411-E-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	1.4	U	10.0	8.81		mg/L		88	77 - 128	3	5

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

Chain of Custody Record

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Client Information	Sampler: Brett Sutles	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-1
Company: Gulf Power Company				Job #: 150861
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 Plant Crist	Project #: 40005424			
Site: Landfill 1	SSOW#:			

Analysis Requested

400-150861 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=wasteoil, 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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-101	3/14/18	0846	G	Water			X	X	X	X		
MW-102	3/14/18	1417		Water								
MW-103	3/14/18	1750		Water								
MW-104	3/14/18	1555		Water								
MW-105	3/14/18	1245		Water								
MW-106	3/14/18	1032		Water								
MW-109	3/14/18	1623		Water								
MW-110	3/14/18	1438		Water								
Dup-03	3/14/18	1145		W								
EB-03	3/14/18	1545		W								
FB-03	3/14/18	1200	G	W			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]	3-14-18 1830	SOUTHERN	[signature]	3.14.18 1830	TA-Pen
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: [illegible]

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-150861-1
SDG Number: Landfill 1

Login Number: 150861
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 IR7
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 Plant Crist

TestAmerica Job ID: 400-150861-1
SDG: Landfill 1

Laboratory: TestAmerica Pensacola

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

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

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

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-150861-2
TestAmerica Sample Delivery Group: Landfill 1
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
4/12/2018 11:04:18 AM

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

LINKS

Review your project results through TotalAccess

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

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

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

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: 400-150861-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-150861-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-356424: Insufficient sample volume was available to perform a sample duplicate (DUP,MS,MSD) for the following samples:MW-101 (400-150861-1), MW-102 (400-150861-2), MW-103 (400-150861-3), MW-104 (400-150861-4), MW-105 (400-150861-5), MW-106 (400-150861-6), MW-109 (400-150861-7), MW-110 (400-150861-8), DUP-03 (400-150861-9), EB-03 (400-150861-10) and FB-03 (400-150861-11). 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 160-356422: Insufficient sample volume was available to perform a sample duplicate (DUP,MS,MSD) for the following samples:MW-101 (400-150861-1), MW-102 (400-150861-2), MW-103 (400-150861-3), MW-104 (400-150861-4), MW-105 (400-150861-5), MW-106 (400-150861-6), MW-109 (400-150861-7), MW-110 (400-150861-8), DUP-03 (400-150861-9), EB-03 (400-150861-10) and FB-03 (400-150861-11). 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 Plant Crist

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-150861-1	MW-101	Water	03/14/18 08:46	03/14/18 18:30
400-150861-2	MW-102	Water	03/14/18 14:17	03/14/18 18:30
400-150861-3	MW-103	Water	03/14/18 17:50	03/14/18 18:30
400-150861-4	MW-104	Water	03/14/18 15:55	03/14/18 18:30
400-150861-5	MW-105	Water	03/14/18 12:45	03/14/18 18:30
400-150861-6	MW-106	Water	03/14/18 10:32	03/14/18 18:30
400-150861-7	MW-109	Water	03/14/18 16:23	03/14/18 18:30
400-150861-8	MW-110	Water	03/14/18 14:38	03/14/18 18:30
400-150861-9	DUP-03	Water	03/14/18 11:45	03/14/18 18:30
400-150861-10	EB-03	Water	03/14/18 15:45	03/14/18 18:30
400-150861-11	FB-03	Water	03/14/18 12:00	03/14/18 18:30

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-101

Date Collected: 03/14/18 08:46
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-1

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	0.277		0.0877	0.0912	1.00	0.0742	pCi/L	03/19/18 10:39	04/10/18 05:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:28*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.337		0.217	0.220	1.00	0.333	pCi/L	03/19/18 10:56	03/26/18 15:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:00*	*1*
Y Carrier	*93.1*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:00*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.614		0.234	0.238	5.00	0.333	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-102

Date Collected: 03/14/18 14:17
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-2

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.405		0.103	0.110	1.00	0.0686	pCi/L	03/19/18 10:39	04/10/18 05:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:28*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.24		0.304	0.324	1.00	0.365	pCi/L	03/19/18 10:56	03/26/18 15:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:00*	*1*
Y Carrier	*90.5*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:00*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.64		0.321	0.342	5.00	0.365	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-103

Date Collected: 03/14/18 17:50
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-3

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	1.97		0.222	0.283	1.00	0.0697	pCi/L	03/19/18 10:39	04/10/18 05:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:28*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.06		0.487	0.674	1.00	0.330	pCi/L	03/19/18 10:56	03/26/18 15:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:00*	*1*
Y Carrier	*92.7*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:00*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.02		0.535	0.731	5.00	0.330	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-104

Date Collected: 03/14/18 15:55
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-4

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	1.47		0.191	0.233	1.00	0.0771	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	11.6		0.726	1.29	1.00	0.366	pCi/L	03/19/18 10:56	03/26/18 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*
Y Carrier	*91.2*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*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	13.1		0.751	1.31	5.00	0.366	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-105

Date Collected: 03/14/18 12:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.957		0.157	0.179	1.00	0.0822	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.86		0.337	0.378	1.00	0.360	pCi/L	03/19/18 10:56	03/26/18 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*
Y Carrier	*93.1*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*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	2.82		0.372	0.418	5.00	0.360	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-106

Date Collected: 03/14/18 10:32
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-6

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.246		0.0836	0.0865	1.00	0.0738	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.543		0.238	0.243	1.00	0.339	pCi/L	03/19/18 10:56	03/26/18 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*
Y Carrier	*92.7*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.789		0.252	0.258	5.00	0.339	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-109

Date Collected: 03/14/18 16:23
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-7

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.610		0.123	0.135	1.00	0.0829	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.38		0.300	0.325	1.00	0.338	pCi/L	03/19/18 10:56	03/26/18 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*
Y Carrier	*92.7*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*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	1.99		0.324	0.352	5.00	0.338	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-110

Date Collected: 03/14/18 14:38
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-8

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	2.45		0.244	0.329	1.00	0.0741	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.61		0.462	0.627	1.00	0.316	pCi/L	03/19/18 10:56	03/26/18 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*
Y Carrier	*93.1*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*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	7.06		0.522	0.708	5.00	0.316	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: DUP-03

Date Collected: 03/14/18 11:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-9

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.989		0.156	0.180	1.00	0.0777	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.81		0.320	0.361	1.00	0.322	pCi/L	03/19/18 10:56	03/26/18 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*1*
Y Carrier	*92.7*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:01*	*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	2.80		0.356	0.403	5.00	0.322	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: EB-03

Date Collected: 03/14/18 15:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-10

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	0.0318	U	0.0425	0.0426	1.00	0.0711	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0309	U	0.210	0.210	1.00	0.381	pCi/L	03/19/18 10:56	03/26/18 15:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:02*	*1*
Y Carrier	*91.2*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:02*	*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	0.000972	U	0.214	0.214	5.00	0.381	pCi/L		04/10/18 14:48	1

Client Sample Results

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: FB-03

Date Collected: 03/14/18 12:00
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-11

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	0.0481	U	0.0447	0.0449	1.00	0.0657	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.686**		0.264	0.272	1.00	0.371	pCi/L	03/19/18 10:56	03/26/18 15:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:02*	*1*
Y Carrier	*95.7*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:02*	*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	**0.735**		0.268	0.276	5.00	0.371	pCi/L		04/10/18 14:48	1

Definitions/Glossary

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Qualifiers

Rad

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

Glossary

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

Lab Chronicle

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-101 — Lab Sample ID: 400-150861-1

Date Collected: 03/14/18 08:46
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:28	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-102 — Lab Sample ID: 400-150861-2

Date Collected: 03/14/18 14:17
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:28	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-103 — Lab Sample ID: 400-150861-3

Date Collected: 03/14/18 17:50
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:28	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:00	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-104 — Lab Sample ID: 400-150861-4

Date Collected: 03/14/18 15:55
Date Received: 03/14/18 18:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: MW-105
Date Collected: 03/14/18 12:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-106
Date Collected: 03/14/18 10:32
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-109
Date Collected: 03/14/18 16:23
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: MW-110
Date Collected: 03/14/18 14:38
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Client Sample ID: DUP-03
Date Collected: 03/14/18 11:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:01	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: EB-03
Date Collected: 03/14/18 15:45
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:02	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	RTM	TAL SL

Client Sample ID: FB-03
Date Collected: 03/14/18 12:00
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			356422	03/19/18 10:39	TJT	TAL SL
Total/NA	Analysis	9315		1	359781	04/10/18 05:29	RTM	TAL SL
Total/NA	Prep	PrecSep_0			356424	03/19/18 10:56	TJT	TAL SL
Total/NA	Analysis	9320		1	357685	03/26/18 15:02	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	360101	04/10/18 14:48	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 Plant Crist

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Rad

Prep Batch: 356422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	PrecSep-21	
400-150861-2	MW-102	Total/NA	Water	PrecSep-21	
400-150861-3	MW-103	Total/NA	Water	PrecSep-21	
400-150861-4	MW-104	Total/NA	Water	PrecSep-21	
400-150861-5	MW-105	Total/NA	Water	PrecSep-21	
400-150861-6	MW-106	Total/NA	Water	PrecSep-21	
400-150861-7	MW-109	Total/NA	Water	PrecSep-21	
400-150861-8	MW-110	Total/NA	Water	PrecSep-21	
400-150861-9	DUP-03	Total/NA	Water	PrecSep-21	
400-150861-10	EB-03	Total/NA	Water	PrecSep-21	
400-150861-11	FB-03	Total/NA	Water	PrecSep-21	
MB 160-356422/14-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-356422/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-356422/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 356424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150861-1	MW-101	Total/NA	Water	PrecSep_0	
400-150861-2	MW-102	Total/NA	Water	PrecSep_0	
400-150861-3	MW-103	Total/NA	Water	PrecSep_0	
400-150861-4	MW-104	Total/NA	Water	PrecSep_0	
400-150861-5	MW-105	Total/NA	Water	PrecSep_0	
400-150861-6	MW-106	Total/NA	Water	PrecSep_0	
400-150861-7	MW-109	Total/NA	Water	PrecSep_0	
400-150861-8	MW-110	Total/NA	Water	PrecSep_0	
400-150861-9	DUP-03	Total/NA	Water	PrecSep_0	
400-150861-10	EB-03	Total/NA	Water	PrecSep_0	
400-150861-11	FB-03	Total/NA	Water	PrecSep_0	
MB 160-356424/14-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-356424/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-356424/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-356422/14-A
Matrix: Water
Analysis Batch: 359781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 356422

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04093	U	0.0444	0.0446	1.00	0.0698	pCi/L	03/19/18 10:39	04/10/18 05:29	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/19/18 10:39*	*04/10/18 05:29*	*1*

Lab Sample ID: LCS 160-356422/1-A
Matrix: Water
Analysis Batch: 359781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 356422

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.8	10.63		1.08	1.00	0.0877	pCi/L	90	68 - 137		

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

Lab Sample ID: LCSD 160-356422/2-A
Matrix: Water
Analysis Batch: 359781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 356422

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.8	10.41		1.06	1.00	0.0710	pCi/L	88	68 - 137	0.1	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-356424/14-A
Matrix: Water
Analysis Batch: 357685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 356424

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1879	U	0.201	0.202	1.00	0.329	pCi/L	03/19/18 10:56	03/26/18 15:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:02*	*1*
Y Carrier	*91.2*		*40 - 110*	*03/19/18 10:56*	*03/26/18 15:02*	*1*

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

Lab Sample ID: LCS 160-356424/1-A
Matrix: Water
Analysis Batch: 357685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 356424

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.45	8.300		0.978	1.00	0.331	pCi/L	98	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*88.6*		*40 - 110*

Lab Sample ID: LCSD 160-356424/2-A
Matrix: Water
Analysis Batch: 357685

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 356424

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.45	8.750		1.01	1.00	0.325	pCi/L	104	56 - 140	0.23	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*102*		*40 - 110*
Y Carrier	*91.6*		*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 Sutles	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-1
Company: Gulf Power Company				Job #: 150861
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 Plant Crist	Project #: 40005424			
Site: Landfill 1	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:

400-150861 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, 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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-101	3/14/18	0846	G	Water			X	X	X	X		
MW-102	3/14/18	1417		Water								
MW-103	3/14/18	1750		Water								
MW-104	3/14/18	1555		Water								
MW-105	3/14/18	1245		Water								
MW-106	3/14/18	1032		Water								
MW-109	3/14/18	1623		Water								
MW-110	3/14/18	1438		Water								
Dup-03	3/14/18	1145		W								
EB-03	3/14/18	1545		W								
FB-03	3/14/18	1200	G	W			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]	3-14-18 1830	SOUTHERN	[signature]	3.14.18 1830	TA-Pen
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: [illegible]

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-150861-2
SDG Number: Landfill 1

Login Number: 150861
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 IR7
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: 400-150861-2
SDG Number: Landfill 1

Login Number: 150861
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 03/16/18 02:29 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	18,18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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 Plant Crist

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
L-A-B	ISO/IEC 17025		L2471	02-22-20
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
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
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
New Jersey	NELAP	2	MO002	06-30-18 *

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-150861-2
SDG: Landfill 1

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 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

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Memorandum

Date: August 17, 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 400-150790-1, 400-150790-2, 400-150793-1, 400-150793-2, 400-150860-1, 400-150860-2, 400-150861-1 and 400-150861-2

SITE: Plant Crist

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-five aqueous samples, three field duplicate samples, three field blanks and three equipment blanks collected from March 12 to March 14, 2018, as part of the Plant Crist CCR sampling event.

The samples were analyzed at TestAmerica 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, 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, with the following exceptions. Due to MS/MSD recoveries of less than 10% for chloride and sulfate, the non-detect results of chloride in batch 390817 and sulfate in batch 391085 were UR qualified as rejected and the estimated concentrations of sulfate in batch 391085 were R qualified as rejected. The qualified data that were not rejected should be used within the limitations of the qualifications.

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
400-150790-1	MW-100
400-150790-2	MW-107
400-150790-3	MW-108
400-150790-4	MW-306
400-150790-5	MW-307
400-150790-6	DUP-01
400-150793-1	MW-300
400-150793-2	MW-303
400-150793-3	MW-304
400-150793-4	MW-305

Laboratory ID	Client ID
400-150793-5	MW-308
400-150793-6	EB-01
400-150793-7	FB-01
400-150860-1	MW-200
400-150860-2	MW-201
400-150860-3	MW-202
400-150860-4	MW-203
400-150860-5	MW-204
400-150860-6	MW-205
400-150860-7	MW-206

Laboratory ID	Client ID
400-150860-8	EB-02
400-150860-9	FB-02
400-150860-10	DUP-02
400-150861-1	MW-101
400-150861-2	MW-102
400-150861-3	MW-103
400-150861-4	MW-104

Laboratory ID	Client ID
400-150861-5	MW-105
400-150861-6	MW-106
400-150861-7	MW-109
400-150861-8	MW-110
400-150861-9	DUP-03
400-150861-10	EB-03
400-150861-11	FB-03

The samples were received within 0-6°C, with the following exceptions. The samples in laboratory reports 400-150860-2 and 400-150861-2 were received at the TestAmerica St. Louis 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.

The following issue was noted with the chain of custody (COC) forms:

- The sample receipt date for report 400-150790-1 was incorrectly listed as 3/13/17 instead of the correct date of March 13, 2018.

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
⊗ Equipment Blank
✓ Field 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 times were 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). Three method blanks were reported (batches 390576, 390579 and 391369). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exception.

Selenium was detected at an estimated concentration, greater than the MDL and less the RL in the method blank for batch 391369. Therefore, the concentrations of selenium in the associated samples that were less than five times the method blank concentration were U* qualified as not detected at the reported value.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
DUP-03	Selenium	0.00034	I V	0.00034	U*	BL
MW-101	Selenium	0.00067	I V	0.00067	U*	BL
MW-102	Selenium	0.001	I V	0.001	U*	BL
MW-105	Selenium	0.0006	I V	0.0006	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 at or above the MDL in both the sample and the associated method blank
* 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

1.4 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). Three sample set specific MS/MSD pairs were reported using

samples MW-100, MW-101 and MW-200. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

One or both recoveries of boron and lithium in the MS/MSD pair using sample MW-100 were high and outside the laboratory and SOP specified acceptance criteria. Therefore, the concentrations of lithium were J qualified as estimated in the associated samples. Since boron was not detected in the associated samples, no qualifications were applied to the boron data.

The recoveries of lithium were high and outside the laboratory specified acceptance criteria in the MS/MSD pairs using samples MW-101 and MW-200. Therefore, the concentrations of lithium in the associated samples were J qualified as estimated. Additionally, one or both recoveries of boron and calcium were low and outside the laboratory specified acceptance criteria in the MS/MSD pair using sample MW-200. Since the concentrations of boron and calcium in sample MW-200 were more than four times the spike amount, no qualifications were applied to the boron and calcium data.

Sample	**Analyte**	**Laboratory Result (mg/L)**	**Laboratory Flag**	**Validation Result (mg/L)**	**Validation Qualifier**	**Reason Code**
DUP-01	Lithium	0.0014	I	0.0014	J	M+
MW-100	Lithium	0.0011	I	0.0011	J	M+
MW-201	Lithium	0.0053	NA	0.0053	J	M+
MW-107	Lithium	0.0014	I	0.0014	J	M+
MW-303	Lithium	0.03	NA	0.03	J	M+
MW-204	Lithium	0.0015	I	0.0015	J	M+
MW-103	Lithium	0.002	I	0.002	J	M+
MW-104	Lithium	0.028	NA	0.028	J	M+
MW-109	Lithium	0.0059	NA	0.0059	J	M+
MW-110	Lithium	0.012	NA	0.012	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

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). Three LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

1.6 Equipment Blank

Three equipment blanks were collected with the sample sets, EB-01, EB-02 and EB-03. Metals were not detected in the equipment blanks above the MDLs, with the following exceptions.

Calcium was detected above the RL and lead was detected at an estimated concentration, greater than the MDL and less the RL in EB-03. Therefore, the concentrations of calcium and lead in the associated samples that were less than five times the equipment 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-101	Calcium	0.49	NA	0.49	U*	BE
MW-102	Calcium	0.63	NA	0.63	U*	BE
MW-103	Calcium	3.9	NA	3.9	U*	BE
MW-104	Lead	0.0023	NA	0.0023	U*	BE
MW-106	Calcium	0.47	NA	0.47	U*	BE
MW-109	Calcium	3.1	NA	3.1	U*	BE

mg/L- milligram per liter
NA-not applicable

1.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-02 and FB-03. Metals were not detected in the field blanks above the MDLs.

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-307, MW-200 and MW-105, respectively, with the following exception.

The concentrations of selenium were less than 5 times the reporting limit for both DUP-02 and MW-200 and the difference between the concentrations of selenium in the field duplicate pair using samples DUP-02 and MW-200 was greater than the RL. Therefore the concentrations of selenium in samples DUP-02 and MW-200 were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
DUP-02	Selenium	0.0049	NA	27	0.0049	J	FD
MW-200	Selenium	0.0064	NA		0.0064	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
✓ Equipment Blank
✓ Field 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 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). Three method blanks were reported (batches 390174, 390725 and 392233). 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 the RL in the method blank for batch 392233. Therefore, the concentrations of mercury in the associated samples that were less than five times the method blank concentration were 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-101	Mercury	0.000093	I V	0.000093	U*	BL
MW-102	Mercury	0.000094	I V	0.000094	U*	BL
MW-103	Mercury	0.00012	I V	0.00012	U*	BL
MW-106	Mercury	0.00008	I V	0.00008	U*	BL
EB-03	Mercury	0.000088	I V	0.000088	U*	BL
FB-03	Mercury	0.00011	I V	0.00011	U*	BL
MW-109	Mercury	0.000097	I V	0.000097	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 at or above the MDL in both the sample and the associated method blank

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). Three batch MS/MSD pairs 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.

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 Equipment Blank

Three equipment blanks were collected with the sample sets, EB-01, EB-02 and EB-03. Mercury was not detected in the equipment blanks above the MDLs, with the following exception.

Mercury was detected at an estimated concentration, greater than the MDL and less the RL in EB-03. Since the concentration of mercury in EB-03 was U* qualified as not detected at the reported concentration due to method blank contamination, no qualifications were applied to the mercury data in the associated samples based on the equipment blank concentration.

2.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-02 and FB-03. Mercury was not detected in the field blanks above the MDLs, with the following exception.

Mercury was detected at an estimated concentration, greater than the MDL and less the RL in FB-03. Since the concentration of mercury in FB-03 was U* qualified as not detected at the reported concentration due to method blank contamination, no qualifications were applied to the mercury data in the associated samples based on the field blank concentration.

2.8 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-307, MW-200 and MW-105, 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
✓ Equipment Blank
⊗ Field 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, with the following exceptions. Due to MS/MSD recoveries of less than 10% for chloride and sulfate, the non-detect results of chloride in batch 390817 and sulfate in batch 391085 were UR qualified as rejected and the estimated concentrations of sulfate in batch 391085 were R qualified as rejected. The results that were not rejected 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 96.2%.

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). Thirteen method blanks were reported (chloride batches 390740, 390817 and 392314; fluoride batches 391059, 391117, 391669, 391874; 391977 and 392016; sulfate batches 390781, 391085, 391847 and 392490). Anions were not detected in the method blanks above the MDLs, with the following exception.

Chloride was detected at an estimated concentration, greater than the MDL and less the RL in batch 392314. Therefore, the concentrations of chloride in the associated samples that were less than five times the method blank concentration were 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
DUP-03	Chloride	1.3	I V	1.3	U*	BL
EB-03	Chloride	1.3	I V	1.3	U*	BL
MW-109	Chloride	6.9	V	6.9	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 at or above the MDL in both the sample and the associated method blank

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). Twelve sample set specific MS/MSD pairs were reported, using samples MW-100, MW-101, MW-109, MW-200 and MW-300 for the chloride data; samples MW-104 and MW-206 for the fluoride data; and samples MW-100, MW-103, MW-200, MW-300 and MW-304 for the sulfate data. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

The recoveries of sulfate were less than 10% in the MS/MSD pairs using samples MW-200 and MW-304. Therefore, the concentrations of sulfate in the associated samples were J qualified as estimated, the estimated concentrations of sulfate, greater than the MDL and less than the RL, in the associated samples were R qualified as rejected and the non-detect sulfate results were UR qualified as rejected. The recoveries of chloride were less than 10% in the MS/MSD pairs using samples MW-101 and MW-200. Therefore, the concentrations of chloride in the associated samples were J qualified as estimated, and the non-detect sulfate results were UR qualified as rejected. Additionally the recoveries of fluoride and sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pairs using samples MW-206 and MW-103, respectively. Therefore, the concentrations of fluoride and sulfate in the associated samples were J qualified as estimated and the non-detect fluoride results were UJ qualified as estimated less than the MDL.

In addition, three batch MS/MSD pairs were reported for the fluoride data and two 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.

Sample	**Analyte**	**Laboratory Result (mg/L)**	**Laboratory Flag**	**Validation Result (mg/L)**	**Validation Qualifier**	**Reason Code**
MW-200	Sulfate	160	NA	160	J	M-
EB-01	Sulfate	1.4	U	1.4	UR	M-
FB-01	Sulfate	1.4	U	1.4	UR	M-
MW-304	Sulfate	460	NA	460	J	M-
MW-305	Sulfate	1.5	I	1.5	R	M-
MW-308	Sulfate	210	NA	210	J	M-
DUP-02	Sulfate	160	NA	160	J	M-
EB-02	Sulfate	1.4	U	1.4	UR	M-
FB-02	Sulfate	1.4	U	1.4	UR	M-
MW-202	Sulfate	8.6	NA	8.6	J	M-
MW-203	Sulfate	100	NA	100	J	M-
MW-204	Sulfate	410	NA	410	J	M-
MW-205	Sulfate	14	NA	14	J	M-
MW-101	Sulfate	1.4	U	1.4	UJ	M-
MW-102	Sulfate	1.4	U	1.4	UJ	M-
MW-103	Sulfate	38	NA	38	J	M-
MW-104	Sulfate	540	NA	540	J	M-
MW-105	Sulfate	22	NA	22	J	M-
DUP-03	Sulfate	1.4	U	1.4	UJ	M-
EB-03	Sulfate	1.4	U	1.4	UJ	M-
MW-106	Sulfate	1.4	U	1.4	UJ	M-

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
MW-109	Sulfate	9.7	NA	9.7	J	M-
MW-110	Sulfate	270	NA	270	J	M-
DUP-02	Fluoride	0.05	I	0.05	J	M-
EB-02	Fluoride	0.032	U	0.032	UJ	M-
FB-02	Fluoride	0.032	U	0.032	UJ	M-
MW-206	Fluoride	0.08	I	0.08	J	M-
MW-200	Chloride	530	NA	530	J	M-
MW-201	Chloride	110	NA	110	J	M-
MW-202	Chloride	14	NA	14	J	M-
DUP-02	Chloride	530	NA	530	J	M-
EB-02	Chloride	0.6	U	0.6	UR	M-
FB-02	Chloride	0.6	U	0.6	UR	M-
MW-203	Chloride	14	NA	14	J	M-
MW-204	Chloride	81	NA	81	J	M-
MW-205	Chloride	4.1	NA	4.1	J	M-
MW-206	Chloride	2100	NA	2100	J	M-
MW-101	Chloride	5.2	NA	5.2	J	M-
MW-102	Chloride	5.2	NA	5.2	J	M-
MW-103	Chloride	7.7	NA	7.7	J	M-
MW-104	Chloride	160	NA	160	J	M-
MW-105	Chloride	45	NA	45	J	M-
MW-106	Chloride	3.7	NA	3.7	J	M-

mg/L- milligram per liter
NA- not applicable
U-not detected at the MDL
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

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). Thirteen LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.6 Equipment Blank

Three equipment blanks were collected with the sample sets, EB-01, EB-02 and EB-03. 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 than the RL in EB-03. Since the concentration of chloride in EB-03 was U* qualified as not detected at the

reported concentration due to method blank contamination, no qualifications were applied to the chloride data in the associated samples based on the equipment blank concentration.

3.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-02 and FB-03. Anions were not detected in the field blanks above the MDLs, with the following exceptions.

Chloride and sulfate were detected above the RL in FB-03. Therefore, the concentrations of chloride and sulfate in the associated samples that were less than five times the field blank concentrations were 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-201	Chloride	110	NA	110	U*	BF
MW-101	Chloride	5.2	NA	5.2	U*	BF
MW-102	Chloride	5.2	NA	5.2	U*	BF
MW-103	Chloride	7.7	NA	7.7	U*	BF
MW-104	Chloride	160	NA	160	U*	BF
MW-105	Chloride	45	NA	45	U*	BF
MW-106	Chloride	3.7	NA	3.7	U*	BF
MW-109	Chloride	6.9	V	6.9	U*	BF
DUP-03	Chloride	1.3	I V	1.3	U*	BF
EB-03	Chloride	1.3	I V	1.3	U*	BF
MW-110	Chloride	140	NA	140	U*	BF
MW-103	Sulfate	38	NA	38	U*	BF
MW-105	Sulfate	22	NA	22	U*	BF
MW-109	Sulfate	9.7	NA	9.7	U*	BF

mg/L- milligram per liter
NA- not applicable
V-indicates that the analyte was detected at or above the MDL in both the sample and the associated method blank
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

3.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-03. Acceptable precision [(RPD < 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-307, MW-200 and MW-105, respectively, with the following exceptions.

The concentrations of chloride and sulfate in sample DUP-03 and the concentration of sulfate in sample MW-105 were less than 5 times the reporting limit and the difference between the concentrations of chloride and sulfate in the field duplicate pair using samples DUP-03 and MW-105 were greater than the RLs. Therefore the concentrations of chloride in sample DUP-03 and chloride and sulfate in sample MW-105 were J qualified as estimated and the non-detect result of sulfate in sample DUP-03 was UJ qualified as estimated less than the MDL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
DUP-03	Chloride	1.3	I V	NC	1.3	J	FD
MW-105	Chloride	45	NA		45	J	FD
DUP-03	Sulfate	1.4	U	NC	1.4	UJ	FD
MW-105	Sulfate	22	NA		22	J	FD

mg/L- milligram per liter
NC-not calculable
V-indicates that the analyte was detected at or above the MDL in both the sample and the associated method blank
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

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 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
- ✓ Equipment Blank
- ⊗ Field 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). Four method blanks were reported (batches 390294, 390489, 390490 and 390491). 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). Four LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.5 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported, using samples MW-100, MW-106 and MW-205. The RPD results were within the laboratory specified acceptance criteria.

In addition, 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.

4.6 Equipment Blank

Three equipment blanks were collected with the sample sets, EB-01, EB-02 and EB-03. TDS was not detected in the equipment blanks above the MDL.

4.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-02 and FB-03. TDS was not detected in the field blanks above the MDLs, with the following exceptions.

TDS was detected above the RL in field blanks FB-02 and FB-03. Therefore, the concentrations of TDS in the associated samples that were less than the five times the field blank concentrations were 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-300	Total Dissolved Solids	26	NA	26	U*	BF
MW-305	Total Dissolved Solids	12	NA	12	U*	BF
MW-101	Total Dissolved Solids	8	NA	8	U*	BF
MW-102	Total Dissolved Solids	14	NA	14	U*	BF
DUP-03	Total Dissolved Solids	4	I	4	U*	BF
MW-109	Total Dissolved Solids	12	NA	12	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

4.8 Field Duplicate

Three field duplicate samples were collected with the sample sets, DUP-01, DUP-02 and DUP-03. Acceptable precision [(RPD < 20% or the difference between the concentrations < reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-307, MW-200 and MW-105, respectively.

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
✓ Equipment Blank
⊗ Field 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). Three method blanks were reported for the radium-226 data (batches 356125, 356315, 356422). Three method blanks were reported for the radium-228 data (batches 356132, 356321 and 356424). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exception.

Radium-228 was detected above the MDC in the method blank in batch 356132. Therefore, the radium-228 concentrations greater than the MDCs but less than the method blank concentration and the radium-228 concentrations greater than the method blank concentration but with a normalized absolute difference (NAD) less than 2.58 were U* qualified as not detected at the reported concentration. In addition, the combined radium 226+228 concentrations in these samples were J qualified as estimated since the concentration of radium-228 in the samples were U* qualified as not detected at the reported concentration and the concentration of radium-226 in the samples were greater than the MDC.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
DUP-01	Radium-228	0.566	NA	0.566	U*	BL
MW-100	Radium-228	0.563	NA	0.563	U*	BL
MW-107	Radium-228	0.65	NA	0.65	U*	BL
MW-108	Radium-228	1.53	NA	1.53	U*	BL
MW-306	Radium-228	0.563	NA	0.563	U*	BL
MW-307	Radium-228	0.654	NA	0.654	U*	BL
MW-305	Radium-228	0.749	NA	0.749	U*	BL
DUP-01	Combined Radium 226 + 228	0.769	NA	0.769	J	BL
MW-100	Combined Radium 226 + 228	0.933	NA	0.933	J	BL
MW-107	Combined Radium 226 + 228	1.09	NA	1.09	J	BL
MW-108	Combined Radium 226 + 228	1.97	NA	1.97	J	BL
MW-306	Combined Radium 226 +	0.783	NA	0.783	J	BL

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
	228					
MW-307	Combined Radium 226 + 228	0.848	NA	0.848	J	BL
MW-305	Combined Radium 226 + 228	1.29	NA	1.29	J	BL

pCi/L- picocuries per liter
NA- not applicable

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). Three LCS/LCS duplicate (LCSD) pairs were reported for radium-226 and three 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.

5.6 Laboratory Duplicate

Laboratory duplicates were not reported.

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 Equipment Blank

Three equipment blanks were collected with the sample sets, EB-01, EB-02 and EB-03. Radium was not detected in the equipment blanks above the MDCs.

5.9 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-02 and FB-03. Radium was not detected in the field blanks above the MDCs, with the following exceptions.

Radium-228 was detected above the MDC in FB-03. Therefore, the radium-228 concentrations greater than the MDCs but less than the FB-03 concentrations and the radium-228 concentrations greater than the FB-03 concentrations but with a normalized absolute difference (NAD) less than 2.58 were U* qualified as not detected at the reported concentration in the associated samples. In addition, the combined radium 226+228 concentrations in these samples were J qualified as estimated since the concentration of radium-228 in the samples were U* qualified as not detected at the reported concentration and the concentration of radium-226 in the samples were greater than the MDC.

Sample	**Analyte**	**Laboratory Result (pCi/L)**	**Laboratory Flag**	**Validation Result (pCi/L)**	**Validation Qualifier**	**Reason Code**
DUP-03	Radium-228	1.81	NA	1.81	U*	BF
MW-101	Radium-228	0.337	NA	0.337	U*	BF
MW-102	Radium-228	1.24	NA	1.24	U*	BF
MW-105	Radium-228	1.86	NA	1.86	U*	BF
MW-106	Radium-228	0.543	NA	0.543	U*	BF
MW-109	Radium-228	1.38	NA	1.38	U*	BF
DUP-03	Combined Radium 226 + 228	2.8	NA	2.8	J	BF
MW-101	Combined Radium 226 + 228	0.614	NA	0.614	J	BF
MW-102	Combined Radium 226 + 228	1.64	NA	1.64	J	BF
MW-105	Combined Radium 226 + 228	2.82	NA	2.82	J	BF
MW-106	Combined Radium 226 + 228	0.789	NA	0.789	J	BF
MW-109	Combined Radium 226 + 228	1.99	NA	1.99	J	BF

pCi/L- picocuries per liter
NA- not applicable

5.10 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-307, MW-200 and MW-105, 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.

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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: 2018-06-11 12:48:13

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	122 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	115 ft

Well Information:		Pumping Information:	
Well ID	MW-102	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7645376 L
Well Total Depth	120 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	103.69 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	12:25:00	600.02	22.80	4.81	35.08	42.10	103.70	8.53	232.43
Last 5	12:30:00	900.02	22.71	4.82	34.82	29.70	103.70	8.48	232.75
Last 5	12:35:00	1200.02	22.62	4.81	35.02	14.80	103.70	8.51	232.77
Last 5	12:40:00	1500.02	22.64	4.81	35.26	9.66	103.70	8.56	232.82
Last 5	12:45:00	1800.02	22.63	4.81	35.40	4.27	103.70	8.55	232.80
Variance 0			-0.09	-0.00	0.19			0.03	0.02
Variance 1			0.02	-0.00	0.25			0.05	0.05
Variance 2			-0.01	-0.00	0.14			-0.01	-0.02

Notes

Sample@1246, Rainy 85

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-11 08:19:43

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	122 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	115 ft

Well Information:		Pumping Information:	
Well ID	MW-103	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7645376 L
Well Total Depth	120 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	112.44 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	07:58:17	300.08	22.19	5.46	152.33	18.40	112.45	7.66	223.30
Last 5	08:03:17	600.03	22.13	5.21	152.64	15.90	112.45	7.74	222.57
Last 5	08:08:17	900.02	22.12	5.11	153.43	11.20	112.45	7.77	222.10
Last 5	08:13:17	1200.02	22.17	5.04	154.40	7.11	112.45	7.80	222.98
Last 5	08:18:17	1500.03	22.21	5.02	154.79	4.95	112.45	7.77	223.47
Variance 0			-0.00	-0.10	0.79			0.03	-0.46
Variance 1			0.05	-0.06	0.97			0.03	0.87
Variance 2			0.04	-0.03	0.39			-0.04	0.49

Notes

Sample@0819, Cloudy 78

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-10 10:28:25

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	85 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	78 ft

Well Information:		Pumping Information:	
Well ID	MW-104	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.599391 L
Well Total Depth	83 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	59.56 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	10:05:35	300.02	23.79	4.18	2812.96	16.80	59.57	4.93	545.66
Last 5	10:10:35	600.03	23.74	4.05	2867.82	7.99	59.57	4.86	553.06
Last 5	10:15:35	900.02	23.77	3.99	2881.89	5.98	59.57	4.83	565.30
Last 5	10:20:35	1200.03	23.64	3.98	2887.96	4.24	59.57	4.79	568.83
Last 5	10:25:35	1500.02	23.60	3.97	2898.94	3.93	59.57	4.79	566.63
Variance 0			0.03	-0.05	14.06			-0.03	12.24
Variance 1			-0.12	-0.02	6.08			-0.04	3.53
Variance 2			-0.04	-0.01	10.98			-0.00	-2.20

Notes

Sample@1027,Sunny 86, EB -03@1050

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-10 09:00:27

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	45 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	MW-105	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.420854 L
Well Total Depth	43 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	22.46 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%	+/- 10		+/- 0.2	+/- 10
Last 5	08:40:03	300.03	22.63	5.93	1056.85	1.73	22.46	0.15	-6.90
Last 5	08:45:03	600.02	22.58	5.95	1111.18	1.77	22.46	0.11	-11.23
Last 5	08:50:03	900.03	22.64	5.96	1121.38	1.98	22.46	0.10	-16.15
Last 5	08:55:03	1200.02	22.66	5.96	1134.36	1.76	22.46	0.09	-18.94
Last 5									
Variance 0			-0.04	0.02	54.33			-0.03	-4.33
Variance 1			0.06	0.01	10.20			-0.01	-4.92
Variance 2			0.02	0.00	12.98			-0.01	-2.79

Notes

Sample@0857, Sunny 87, DUP-04@0757

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-10 08:00:18

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	95 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	88 ft

Well Information:		Pumping Information:	
Well ID	MW-106	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6440251 L
Well Total Depth	93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	67.42 ft	Total Volume Pumped	0 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	07:38:50	300.02	21.98	5.10	29.65	1.09	67.50	8.40	167.21
Last 5	07:43:50	600.02	21.94	5.05	29.42	0.51	67.50	8.45	165.36
Last 5	07:48:50	900.02	22.17	5.03	29.50	0.89	67.50	8.34	165.19
Last 5	07:53:50	1200.02	22.17	5.00	29.56	0.40	67.50	8.43	165.23
Last 5	07:58:50	1500.02	22.26	4.99	29.43	0.42	66.50	8.42	165.96
Variance 0			0.23	-0.02	0.08			-0.11	-0.17
Variance 1			0.00	-0.03	0.06			0.08	0.03
Variance 2			0.09	-0.01	-0.13			-0.01	0.73

Notes

Sample@0759, Sunny 85

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-11 11:32:18

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	135 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	128 ft

Well Information:		Pumping Information:	
Well ID	MW-109	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8225621 L
Well Total Depth	133 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.04 in
Depth to Water	111.56 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	11:10:56	900.02	23.38	4.81	66.05	4.55	111.60	8.38	242.25
Last 5	11:15:56	1200.02	23.65	4.80	67.03	3.21	111.60	8.40	242.51
Last 5	11:20:57	1501.02	23.44	4.79	66.97	2.78	111.60	8.38	242.12
Last 5	11:25:57	1801.02	23.49	4.78	67.57	2.81	111.60	8.39	242.05
Last 5	11:30:57	2101.03	23.54	4.78	67.52	2.24	111.60	8.41	241.82
Variance 0			-0.20	-0.01	-0.07			-0.02	-0.40
Variance 1			0.05	-0.01	0.60			0.02	-0.07
Variance 2			0.05	-0.00	-0.05			0.02	-0.23

Notes

Sample@1131,FB-03@0900, Partly Sunny87

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-11 10:13:36

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	121 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	114 ft

Well Information:		Pumping Information:	
Well ID	MW-110	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7600741 L
Well Total Depth	119 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.03 in
Depth to Water	81.87 ft	Total Volume Pumped	30 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	09:51:53	3300.03	23.44	4.76	1187.42	1.26	81.90	3.33	532.49
Last 5	09:56:53	3600.02	23.29	4.76	1210.87	1.12	81.90	3.19	539.39
Last 5	10:01:53	3900.02	23.26	4.76	1245.93	0.94	81.90	3.03	543.65
Last 5	10:06:53	4200.03	23.33	4.77	1261.03	1.09	81.90	2.96	544.49
Last 5	10:11:53	4500.03	23.24	4.77	1276.06	1.18	81.90	2.88	542.22
Variance 0			-0.03	-0.00	35.06			-0.15	4.26
Variance 1			0.07	0.00	15.10			-0.07	0.83
Variance 2			-0.09	0.00	15.03			-0.08	-2.26

Notes

Sample@1012, Cloudy 84

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-05 09:45:14

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	121 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	104 ft

Well Information:		Pumping Information:	
Well ID	MW-100	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	1.020074 L
Well Total Depth	119 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.02 in
Depth to Water	90.61 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	09:24:13	900.02	20.91	4.93	43.58	0.85	90.63	7.93	149.05
Last 5	09:29:13	1200.02	20.78	4.93	43.49	0.69	90.63	8.16	149.80
Last 5	09:34:13	1500.02	20.73	4.93	43.39	0.55	90.63	8.30	149.79
Last 5	09:39:13	1800.02	20.74	4.93	43.38	0.51	90.63	8.42	150.30
Last 5	09:44:13	2100.05	20.70	4.92	43.32	0.44	90.63	8.49	150.71
Variance 0			-0.05	0.01	-0.10			0.14	-0.01
Variance 1			0.01	-0.00	-0.01			0.12	0.51
Variance 2			-0.04	-0.01	-0.06			0.06	0.42

Notes

Sample @0944, rain 67

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-10 06:49:50

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	LF-1	Tubing Diameter	.17 in
Site Name	Crist LF1	Tubing Length	120 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	113 ft

Well Information:		Pumping Information:	
Well ID	MW-101	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7556108 L
Well Total Depth	118 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	96.77 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	06:28:25	600.02	21.02	5.58	31.88	15.20	96.77	9.25	173.08
Last 5	06:33:25	900.02	21.04	5.42	31.84	11.80	96.77	9.24	173.65
Last 5	06:38:25	1200.02	20.99	5.31	31.93	4.48	96.77	9.18	171.31
Last 5	06:43:25	1500.04	21.08	5.21	32.01	2.65	96.77	9.14	171.14
Last 5	06:48:25	1800.03	21.10	5.12	31.98	2.22	96.77	9.13	171.42
Variance 0			-0.06	-0.11	0.09			-0.05	-2.34
Variance 1			0.09	-0.10	0.09			-0.04	-0.16
Variance 2			0.02	-0.09	-0.03			-0.01	0.27

Notes

Sample@0649, partly cloudy 72

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-05 08:20:58

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	126 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	119 ft

Well Information:		Pumping Information:	
Well ID	MW-107	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	1.042391 L
Well Total Depth	124 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	102.01 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	08:02:21	300.02	21.19	5.10	32.28	0.72	102.02	8.95	151.85
Last 5	08:09:49	300.02	21.05	5.14	32.17	0.72	102.02	9.10	147.07
Last 5	08:14:49	600.02	21.01	5.10	32.16	0.80	102.02	9.11	147.44
Last 5	08:19:49	900.02	21.01	5.04	32.44	0.67	102.02	9.11	148.81
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.04	-0.03	-0.01			0.01	0.37
Variance 2			0.00	-0.06	0.29			-0.00	1.36

Notes

Sample @0820, cloudy72

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-05 07:11:24

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	100 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	93 ft

Well Information:		Pumping Information:	
Well ID	MW-108	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.9263423 L
Well Total Depth	98 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	70.20 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	06:50:12	600.02	21.23	5.28	41.62	12.70	70.20	8.64	163.96
Last 5	06:55:12	900.02	21.24	5.11	41.57	7.02	70.20	8.65	164.86
Last 5	07:00:12	1200.03	21.28	4.99	41.52	6.01	70.20	8.66	164.94
Last 5	07:05:12	1500.02	21.32	4.93	41.47	5.22	70.20	8.64	164.70
Last 5	07:10:12	1800.02	21.32	4.90	41.47	3.02	70.20	8.66	163.49
Variance 0			0.04	-0.12	-0.05			0.01	0.09
Variance 1			0.05	-0.07	-0.05			-0.02	-0.24
Variance 2			-0.01	-0.03	0.00			0.02	-1.21

Notes

Sample@0710, Cloudy 68

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-06 08:14:17

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	95 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	88 ft

Well Information:		Pumping Information:	
Well ID	NW-306	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.9040251 L
Well Total Depth	93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	56.06 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	07:52:53	300.09	21.13	5.75	37.38	8.08	56.10	8.57	150.62
Last 5	07:57:53	600.03	21.10	5.47	37.13	7.66	56.01	8.55	163.55
Last 5	08:02:53	900.03	21.17	5.29	36.64	6.44	56.01	8.52	165.83
Last 5	08:07:53	1200.02	21.23	5.17	36.36	5.84	56.01	8.50	164.60
Last 5	08:12:53	1500.02	21.29	5.09	36.22	4.36	56.01	8.48	163.81
Variance 0			0.07	-0.18	-0.48			-0.03	2.28
Variance 1			0.06	-0.12	-0.28			-0.02	-1.23
Variance 2			0.06	-0.08	-0.14			-0.01	-0.79

Notes

Sample @0813, sunny 75

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-06 09:59:41

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	125 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	383005		
Turbidity Make/Model	HACH	Pump placement from TOC	118 ft

Well Information:		Pumping Information:	
Well ID	MW-307	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	1.037928 L
Well Total Depth	123 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.5 in
Depth to Water	90.62 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%	+/- 10		+/- 0.2	+/- 10
Last 5	09:38:21	2100.03	22.62	5.59	38.47	2.17	91.05	1.31	49.18
Last 5	09:43:21	2400.02	22.38	5.58	38.27	2.01	91.05	1.36	49.18
Last 5	09:48:21	2700.02	22.71	5.58	38.03	1.75	91.05	1.43	47.59
Last 5	09:53:21	3000.03	22.80	5.58	37.69	1.62	91.05	1.50	47.51
Last 5	09:58:21	3300.02	22.81	5.58	37.36	--	--	1.58	48.53
Variance 0			0.32	-0.00	-0.23			0.07	-1.59
Variance 1			0.09	0.00	-0.34			0.07	-0.08
Variance 2			0.01	0.01	-0.33			0.09	1.02

Notes

Sample@0959, Sunny 80

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: 400-154742-1
TestAmerica Sample Delivery Group: Background
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
7/16/2018 4:41:56 PM

Cheyenne Whitmire, Project Manager II
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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 6
Sample Summary 7
Client Sample Results 8
Definitions 18
Chronicle 19
QC Association 22
QC Sample Results 26
Chain of Custody 35
Receipt Checklists 36
Certification Summary 38

Job ID: 400-154742-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154742-1

RAD
Method(s) 903.0, 9315: Radium-226 Prep Batch 160-370240: The method blank (MB) exhibited a negative result greater in magnitude than the 3 sigma TPU: (MB 160-370240/21-A). This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected. No further action is required.

Method(s) PrecSep_0: Radium 228 Prep Batch 160-370246: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-100 (400-154742-1), MW-107 (400-154742-2), MW-108 (400-154742-3), MW-306 (400-154742-4) and MW-307 (400-154742-5). 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 160-370240: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-100 (400-154742-1), MW-107 (400-154742-2), MW-108 (400-154742-3), MW-306 (400-154742-4) and MW-307 (400-154742-5). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Metals
Method(s) 6020: The method blank for preparation batch 401913 and analytical batch 402069 contained Selenium 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) 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 401749 and analytical batch 402434 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.

General Chemistry
Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 402914 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: Due to the high concentration of sulfates the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 402914 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Detection Summary

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-154742-1

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	0.90		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00051	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Selenium	0.00049	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	10		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.3		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: MW-107 — Lab Sample ID: 400-154742-2

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
Calcium	0.49		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00052	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0012	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.00088	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00098	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Chloride	5.5		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.04				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-108 — Lab Sample ID: 400-154742-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.2		0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.00065	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	14		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.5		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	2.6	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.9				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 400-154742-4

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
Calcium	0.59		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00040	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Selenium	0.00025	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-306 (Continued) — Lab Sample ID: 400-154742-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	20		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.09				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 400-154742-5

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
Calcium	0.68		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00048	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0021	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00026	I V	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	16		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.1		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.58				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 400-154742-1
SDG: Background

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
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
7470A	Preparation, Mercury	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 Plant Crist

TestAmerica Job ID: 400-154742-1
SDG: Background

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154742-1	MW-100	Water	06/05/18 09:44	06/07/18 08:25
400-154742-2	MW-107	Water	06/05/18 08:20	06/07/18 08:25
400-154742-3	MW-108	Water	06/05/18 07:10	06/07/18 08:25
400-154742-4	MW-306	Water	06/06/18 08:13	06/07/18 08:25
400-154742-5	MW-307	Water	06/06/18 09:59	06/07/18 08:25

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-100

Date Collected: 06/05/18 09:44
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-1

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		06/21/18 09:12	06/21/18 14:29	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/18 09:12	06/21/18 14:29	5
Barium	**0.018**		0.0025	0.00049	mg/L		06/21/18 09:12	06/21/18 14:29	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:29	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/18 09:12	06/21/18 14:29	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:29	5
Calcium	**0.90**		0.25	0.13	mg/L		06/21/18 09:12	06/21/18 14:29	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/18 09:12	06/21/18 14:29	5
Cobalt	**0.00051**	**I**	0.0025	0.00040	mg/L		06/21/18 09:12	06/21/18 14:29	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/18 09:12	06/21/18 14:29	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/21/18 09:12	06/21/18 14:29	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/21/18 09:12	06/21/18 14:29	5
Selenium	**0.00049**	**I V**	0.0013	0.00024	mg/L		06/21/18 09:12	06/21/18 14:29	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/18 09:12	06/21/18 14:29	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		06/23/18 14:33	06/25/18 10:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**10**		5.0	3.4	mg/L			06/11/18 17:02	1
Chloride	**5.3**		2.0	0.60	mg/L			06/29/18 11:00	1
Fluoride	0.032	U	0.10	0.032	mg/L			06/13/18 14:47	1
Sulfate	1.4	U	5.0	1.4	mg/L			06/28/18 13:45	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.292**		0.200	0.202	1.00	0.266	pCi/L	06/13/18 08:51	07/06/18 19:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*06/13/18 08:51*	*07/06/18 19:44*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.420**		0.222	0.225	1.00	0.320	pCi/L	06/13/18 09:16	07/06/18 11:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:53*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:53*	*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	**0.713**		0.299	0.302	5.00	0.320	pCi/L		07/08/18 16:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-100

Date Collected: 06/05/18 09:44
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-1

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.92				SU			06/05/18 09:44	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-107

Date Collected: 06/05/18 08:20
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-2

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		06/21/18 09:12	06/21/18 14:55	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/18 09:12	06/21/18 14:55	5
Barium	**0.014**		0.0025	0.00049	mg/L		06/21/18 09:12	06/21/18 14:55	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:55	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/18 09:12	06/21/18 14:55	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:55	5
Calcium	**0.49**		0.25	0.13	mg/L		06/21/18 09:12	06/21/18 14:55	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/18 09:12	06/21/18 14:55	5
Cobalt	**0.00052**	**I**	0.0025	0.00040	mg/L		06/21/18 09:12	06/21/18 14:55	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/18 09:12	06/21/18 14:55	5
Lithium	**0.0012**	**I**	0.0050	0.0011	mg/L		06/21/18 09:12	06/21/18 14:55	5
Molybdenum	**0.00088**	**I**	0.015	0.00085	mg/L		06/21/18 09:12	06/21/18 14:55	5
Selenium	**0.00098**	**I V**	0.0013	0.00024	mg/L		06/21/18 09:12	06/21/18 14:55	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/18 09:12	06/21/18 14:55	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		06/23/18 14:33	06/25/18 10:27	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			06/11/18 17:02	1
Chloride	**5.5**		2.0	0.60	mg/L			06/29/18 11:00	1
Fluoride	0.032	U	0.10	0.032	mg/L			06/13/18 14:50	1
Sulfate	1.4	U	5.0	1.4	mg/L			06/28/18 13:45	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.445**		0.235	0.238	1.00	0.278	pCi/L	06/13/18 08:51	07/06/18 19:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*06/13/18 08:51*	*07/06/18 19:44*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.482**		0.260	0.264	1.00	0.381	pCi/L	06/13/18 09:16	07/06/18 11:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:53*	*1*
Y Carrier	*83.7*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:53*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.927**		0.350	0.355	5.00	0.381	pCi/L		07/08/18 16:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-107

Date Collected: 06/05/18 08:20
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-2

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.04				SU			06/05/18 08:20	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-108

Date Collected: 06/05/18 07:10
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-3

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		06/21/18 09:12	06/21/18 14:59	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/18 09:12	06/21/18 14:59	5
Barium	**0.011**		0.0025	0.00049	mg/L		06/21/18 09:12	06/21/18 14:59	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:59	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/18 09:12	06/21/18 14:59	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:59	5
Calcium	**1.2**		0.25	0.13	mg/L		06/21/18 09:12	06/21/18 14:59	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/18 09:12	06/21/18 14:59	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/18 09:12	06/21/18 14:59	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/18 09:12	06/21/18 14:59	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/21/18 09:12	06/21/18 14:59	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/21/18 09:12	06/21/18 14:59	5
Selenium	**0.00065**	**I V**	0.0013	0.00024	mg/L		06/21/18 09:12	06/21/18 14:59	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/18 09:12	06/21/18 14:59	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		06/23/18 14:33	06/25/18 10:29	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**14**		5.0	3.4	mg/L			06/11/18 17:02	1
Chloride	**6.5**		2.0	0.60	mg/L			06/29/18 11:00	1
Fluoride	0.032	U	0.10	0.032	mg/L			06/13/18 14:53	1
Sulfate	**2.6**	**I**	5.0	1.4	mg/L			06/28/18 13:45	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.777**		0.293	0.301	1.00	0.266	pCi/L	06/13/18 08:51	07/06/18 19:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*06/13/18 08:51*	*07/06/18 19:45*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.39**		0.344	0.368	1.00	0.423	pCi/L	06/13/18 09:16	07/06/18 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:55*	*1*
Y Carrier	*89.7*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:55*	*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	**2.17**		0.452	0.475	5.00	0.423	pCi/L		07/08/18 16:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-108

Date Collected: 06/05/18 07:10
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-3

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.9				SU			06/05/18 07:10	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-306

Date Collected: 06/06/18 08:13
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-4

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		06/21/18 09:12	06/21/18 15:04	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/18 09:12	06/21/18 15:04	5
Barium	**0.014**		0.0025	0.00049	mg/L		06/21/18 09:12	06/21/18 15:04	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 15:04	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/18 09:12	06/21/18 15:04	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 15:04	5
Calcium	**0.59**		0.25	0.13	mg/L		06/21/18 09:12	06/21/18 15:04	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/18 09:12	06/21/18 15:04	5
Cobalt	**0.00040**	**I**	0.0025	0.00040	mg/L		06/21/18 09:12	06/21/18 15:04	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/18 09:12	06/21/18 15:04	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/21/18 09:12	06/21/18 15:04	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/21/18 09:12	06/21/18 15:04	5
Selenium	**0.00025**	**I V**	0.0013	0.00024	mg/L		06/21/18 09:12	06/21/18 15:04	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/18 09:12	06/21/18 15:04	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		06/23/18 14:33	06/25/18 10:31	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**20**		5.0	3.4	mg/L			06/12/18 13:11	1
Chloride	**5.6**		2.0	0.60	mg/L			06/29/18 11:00	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 10:26	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/01/18 08:50	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.432**		0.243	0.246	1.00	0.306	pCi/L	06/13/18 08:51	07/06/18 19:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*06/13/18 08:51*	*07/06/18 19:45*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.648**		0.266	0.273	1.00	0.371	pCi/L	06/13/18 09:16	07/06/18 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:55*	*1*
Y Carrier	*90.1*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:55*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.08**		0.360	0.367	5.00	0.371	pCi/L		07/08/18 16:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-306

Date Collected: 06/06/18 08:13
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-4

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.09				SU			06/06/18 08:13	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-307

Date Collected: 06/06/18 09:59
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-5

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		06/21/18 09:12	06/21/18 15:31	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/18 09:12	06/21/18 15:31	5
Barium	**0.017**		0.0025	0.00049	mg/L		06/21/18 09:12	06/21/18 15:31	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 15:31	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/18 09:12	06/21/18 15:31	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 15:31	5
Calcium	**0.68**		0.25	0.13	mg/L		06/21/18 09:12	06/21/18 15:31	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/18 09:12	06/21/18 15:31	5
Cobalt	**0.00048**	**I**	0.0025	0.00040	mg/L		06/21/18 09:12	06/21/18 15:31	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/18 09:12	06/21/18 15:31	5
Lithium	**0.0021**	**I**	0.0050	0.0011	mg/L		06/21/18 09:12	06/21/18 15:31	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/21/18 09:12	06/21/18 15:31	5
Selenium	**0.00026**	**I V**	0.0013	0.00024	mg/L		06/21/18 09:12	06/21/18 15:31	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/18 09:12	06/21/18 15:31	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		06/23/18 14:33	06/25/18 10:32	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**16**		5.0	3.4	mg/L			06/12/18 13:11	1
Chloride	**4.1**		2.0	0.60	mg/L			06/29/18 11:00	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/02/18 10:35	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/01/18 08:50	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.338**		0.215	0.217	1.00	0.277	pCi/L	06/13/18 08:51	07/06/18 19:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*06/13/18 08:51*	*07/06/18 19:45*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.443**		0.279	0.282	1.00	0.427	pCi/L	06/13/18 09:16	07/06/18 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:55*	*1*
Y Carrier	*81.1*		*40 - 110*	*06/13/18 09:16*	*07/06/18 11:55*	*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	**0.780**		0.352	0.356	5.00	0.427	pCi/L		07/08/18 16:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-307

Date Collected: 06/06/18 09:59
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-5

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.58				SU			06/06/18 09:59	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.
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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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 Plant Crist

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-100
Date Collected: 06/05/18 09:44
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			401913	06/21/18 09:12	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402069	06/21/18 14:29	DRE	TAL PEN
Total/NA	Prep	7470A			401749	06/23/18 14:33	DN1	TAL PEN
Total/NA	Analysis	7470A		1	402434	06/25/18 10:14	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	400731	06/11/18 17:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403017	06/29/18 11:00	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400986	06/13/18 14:47	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402914	06/28/18 13:45	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370240	06/13/18 08:51	JLC	TAL SL
Total/NA	Analysis	9315		1	374245	07/06/18 19:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370246	06/13/18 09:16	JLC	TAL SL
Total/NA	Analysis	9320		1	374350	07/06/18 11:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	374406	07/08/18 16:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/05/18 09:44	CDH	TAL PEN

Client Sample ID: MW-107
Date Collected: 06/05/18 08:20
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			401913	06/21/18 09:12	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402069	06/21/18 14:55	DRE	TAL PEN
Total/NA	Prep	7470A			401749	06/23/18 14:33	DN1	TAL PEN
Total/NA	Analysis	7470A		1	402434	06/25/18 10:27	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	400731	06/11/18 17:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403017	06/29/18 11:00	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400986	06/13/18 14:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402914	06/28/18 13:45	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370240	06/13/18 08:51	JLC	TAL SL
Total/NA	Analysis	9315		1	374245	07/06/18 19:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370246	06/13/18 09:16	JLC	TAL SL
Total/NA	Analysis	9320		1	374350	07/06/18 11:53	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	374406	07/08/18 16:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/05/18 08:20	CDH	TAL PEN

Client Sample ID: MW-108
Date Collected: 06/05/18 07:10
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			401913	06/21/18 09:12	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402069	06/21/18 14:59	DRE	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-108 — Lab Sample ID: 400-154742-3

Date Collected: 06/05/18 07:10
Date Received: 06/07/18 08:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			401749	06/23/18 14:33	DN1	TAL PEN
Total/NA	Analysis	7470A		1	402434	06/25/18 10:29	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	400731	06/11/18 17:02	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403017	06/29/18 11:00	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	400986	06/13/18 14:53	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	402914	06/28/18 13:45	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370240	06/13/18 08:51	JLC	TAL SL
Total/NA	Analysis	9315		1	374245	07/06/18 19:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370246	06/13/18 09:16	JLC	TAL SL
Total/NA	Analysis	9320		1	374349	07/06/18 11:55	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	374406	07/08/18 16:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/05/18 07:10	CDH	TAL PEN

Client Sample ID: MW-306 — Lab Sample ID: 400-154742-4

Date Collected: 06/06/18 08:13
Date Received: 06/07/18 08:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			401913	06/21/18 09:12	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402069	06/21/18 15:04	DRE	TAL PEN
Total/NA	Prep	7470A			401749	06/23/18 14:33	DN1	TAL PEN
Total/NA	Analysis	7470A		1	402434	06/25/18 10:31	JAP	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	403017	06/29/18 11:00	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 10:26	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403143	07/01/18 08:50	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370240	06/13/18 08:51	JLC	TAL SL
Total/NA	Analysis	9315		1	374245	07/06/18 19:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370246	06/13/18 09:16	JLC	TAL SL
Total/NA	Analysis	9320		1	374349	07/06/18 11:55	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	374406	07/08/18 16:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/06/18 08:13	CDH	TAL PEN

Client Sample ID: MW-307 — Lab Sample ID: 400-154742-5

Date Collected: 06/06/18 09:59
Date Received: 06/07/18 08:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			401913	06/21/18 09:12	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402069	06/21/18 15:31	DRE	TAL PEN
Total/NA	Prep	7470A			401749	06/23/18 14:33	DN1	TAL PEN
Total/NA	Analysis	7470A		1	402434	06/25/18 10:32	JAP	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154742-1
SDG: Background

Client Sample ID: MW-307

Date Collected: 06/06/18 09:59
Date Received: 06/07/18 08:25

Lab Sample ID: 400-154742-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	400737	06/12/18 13:11	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403017	06/29/18 11:00	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403221	07/02/18 10:35	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403143	07/01/18 08:50	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370240	06/13/18 08:51	JLC	TAL SL
Total/NA	Analysis	9315		1	374245	07/06/18 19:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370246	06/13/18 09:16	JLC	TAL SL
Total/NA	Analysis	9320		1	374349	07/06/18 11:55	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	374406	07/08/18 16:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/06/18 09:59	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 Plant Crist

TestAmerica Job ID: 400-154742-1
SDG: Background

Metals

Prep Batch: 401749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	7470A	
400-154742-2	MW-107	Total/NA	Water	7470A	
400-154742-3	MW-108	Total/NA	Water	7470A	
400-154742-4	MW-306	Total/NA	Water	7470A	
400-154742-5	MW-307	Total/NA	Water	7470A	
MB 400-401749/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-401749/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-155153-B-1-B MS	Matrix Spike	Total/NA	Water	7470A	
400-155153-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 401913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total Recoverable	Water	3005A	
400-154742-2	MW-107	Total Recoverable	Water	3005A	
400-154742-3	MW-108	Total Recoverable	Water	3005A	
400-154742-4	MW-306	Total Recoverable	Water	3005A	
400-154742-5	MW-307	Total Recoverable	Water	3005A	
MB 400-401913/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-401913/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-154742-1 MS	MW-100	Total Recoverable	Water	3005A	
400-154742-1 MSD	MW-100	Total Recoverable	Water	3005A	

Analysis Batch: 402069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total Recoverable	Water	6020	401913
400-154742-2	MW-107	Total Recoverable	Water	6020	401913
400-154742-3	MW-108	Total Recoverable	Water	6020	401913
400-154742-4	MW-306	Total Recoverable	Water	6020	401913
400-154742-5	MW-307	Total Recoverable	Water	6020	401913
MB 400-401913/1-A ^5	Method Blank	Total Recoverable	Water	6020	401913
LCS 400-401913/2-A	Lab Control Sample	Total Recoverable	Water	6020	401913
400-154742-1 MS	MW-100	Total Recoverable	Water	6020	401913
400-154742-1 MSD	MW-100	Total Recoverable	Water	6020	401913

Analysis Batch: 402434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	7470A	401749
400-154742-2	MW-107	Total/NA	Water	7470A	401749
400-154742-3	MW-108	Total/NA	Water	7470A	401749
400-154742-4	MW-306	Total/NA	Water	7470A	401749
400-154742-5	MW-307	Total/NA	Water	7470A	401749
MB 400-401749/14-A	Method Blank	Total/NA	Water	7470A	401749
LCS 400-401749/15-A	Lab Control Sample	Total/NA	Water	7470A	401749
400-155153-B-1-B MS	Matrix Spike	Total/NA	Water	7470A	401749
400-155153-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	401749

QC Association Summary

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

TestAmerica Job ID: 400-154742-1
SDG: Background

General Chemistry

Analysis Batch: 400731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	SM 2540C	
400-154742-2	MW-107	Total/NA	Water	SM 2540C	
400-154742-3	MW-108	Total/NA	Water	SM 2540C	
MB 400-400731/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-400731/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154742-1 DU	MW-100	Total/NA	Water	SM 2540C	

Analysis Batch: 400737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-4	MW-306	Total/NA	Water	SM 2540C	
400-154742-5	MW-307	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: 400986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	SM 4500 F C	
400-154742-2	MW-107	Total/NA	Water	SM 4500 F C	
400-154742-3	MW-108	Total/NA	Water	SM 4500 F C	
MB 400-400986/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-400986/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154790-A-25 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154790-A-25 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154790-A-33 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 402914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	SM 4500 SO4 E	
400-154742-2	MW-107	Total/NA	Water	SM 4500 SO4 E	
400-154742-3	MW-108	Total/NA	Water	SM 4500 SO4 E	
MB 400-402914/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-402914/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-402914/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-155251-G-9 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-155251-G-9 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 403017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	SM 4500 Cl- E	
400-154742-2	MW-107	Total/NA	Water	SM 4500 Cl- E	
400-154742-3	MW-108	Total/NA	Water	SM 4500 Cl- E	
400-154742-4	MW-306	Total/NA	Water	SM 4500 Cl- E	
400-154742-5	MW-307	Total/NA	Water	SM 4500 Cl- E	
MB 400-403017/56	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-403017/57	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-403017/53	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154742-4 MS	MW-306	Total/NA	Water	SM 4500 Cl- E	
400-154742-4 MSD	MW-306	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 403143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-4	MW-306	Total/NA	Water	SM 4500 SO4 E	
400-154742-5	MW-307	Total/NA	Water	SM 4500 SO4 E	
MB 400-403143/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-403143/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-403143/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-154816-A-4 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-154816-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 403221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-4	MW-306	Total/NA	Water	SM 4500 F C	
400-154742-5	MW-307	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	
400-154742-4 MS	MW-306	Total/NA	Water	SM 4500 F C	
400-154742-4 MSD	MW-306	Total/NA	Water	SM 4500 F C	
400-154881-A-7 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Rad

Prep Batch: 370240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	PrecSep-21	
400-154742-2	MW-107	Total/NA	Water	PrecSep-21	
400-154742-3	MW-108	Total/NA	Water	PrecSep-21	
400-154742-4	MW-306	Total/NA	Water	PrecSep-21	
400-154742-5	MW-307	Total/NA	Water	PrecSep-21	
MB 160-370240/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-370240/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-370240/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 370246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-1	MW-100	Total/NA	Water	PrecSep_0	
400-154742-2	MW-107	Total/NA	Water	PrecSep_0	
400-154742-3	MW-108	Total/NA	Water	PrecSep_0	
400-154742-4	MW-306	Total/NA	Water	PrecSep_0	
400-154742-5	MW-307	Total/NA	Water	PrecSep_0	
MB 160-370246/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-370246/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-370246/2-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
400-154742-1	MW-100	Total/NA	Water	Field Sampling	
400-154742-2	MW-107	Total/NA	Water	Field Sampling	
400-154742-3	MW-108	Total/NA	Water	Field Sampling	
400-154742-4	MW-306	Total/NA	Water	Field Sampling	

Field Service / Mobile Lab (Continued)

Analysis Batch: 404432 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154742-5	MW-307	Total/NA	Water	Field Sampling	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-401913/1-A ^5
Matrix: Water
Analysis Batch: 402069

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 401913

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/21/18 09:12	06/21/18 14:14	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/21/18 09:12	06/21/18 14:14	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/21/18 09:12	06/21/18 14:14	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:14	5
Boron	0.021	U	0.050	0.021	mg/L		06/21/18 09:12	06/21/18 14:14	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/21/18 09:12	06/21/18 14:14	5
Calcium	0.13	U	0.25	0.13	mg/L		06/21/18 09:12	06/21/18 14:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/21/18 09:12	06/21/18 14:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/21/18 09:12	06/21/18 14:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/21/18 09:12	06/21/18 14:14	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/21/18 09:12	06/21/18 14:14	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/21/18 09:12	06/21/18 14:14	5
Selenium	0.000250	I	0.0013	0.00024	mg/L		06/21/18 09:12	06/21/18 14:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/21/18 09:12	06/21/18 14:14	5

Lab Sample ID: LCS 400-401913/2-A
Matrix: Water
Analysis Batch: 402069

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 401913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0541		mg/L		108	80 - 120
Arsenic	0.0500	0.0511		mg/L		102	80 - 120
Barium	0.0500	0.0515		mg/L		103	80 - 120
Beryllium	0.0500	0.0500		mg/L		100	80 - 120
Boron	0.100	0.102		mg/L		102	80 - 120
Cadmium	0.0500	0.0521		mg/L		104	80 - 120
Calcium	5.00	4.96		mg/L		99	80 - 120
Chromium	0.0500	0.0500		mg/L		100	80 - 120
Cobalt	0.0500	0.0510		mg/L		102	80 - 120
Lead	0.0500	0.0497		mg/L		99	80 - 120
Lithium	0.0500	0.0532		mg/L		106	80 - 120
Molybdenum	0.0500	0.0485		mg/L		97	80 - 120
Selenium	0.0500	0.0528		mg/L		106	80 - 120
Thallium	0.0100	0.0101		mg/L		101	80 - 120

Lab Sample ID: 400-154742-1 MS
Matrix: Water
Analysis Batch: 402069

Client Sample ID: MW-100
Prep Type: Total Recoverable
Prep Batch: 401913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0574		mg/L		115	75 - 125
Arsenic	0.00046	U	0.0500	0.0523		mg/L		105	75 - 125
Barium	0.018		0.0500	0.0704		mg/L		105	75 - 125
Beryllium	0.00034	U	0.0500	0.0524		mg/L		105	75 - 125
Boron	0.021	U	0.100	0.116		mg/L		116	75 - 125
Cadmium	0.00034	U	0.0500	0.0533		mg/L		107	75 - 125
Calcium	0.90		5.00	5.85		mg/L		99	75 - 125
Chromium	0.0011	U	0.0500	0.0508		mg/L		102	75 - 125

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

Lab Sample ID: 400-154742-1 MS — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402069 — **Prep Batch: 401913**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00051	I	0.0500	0.0524		mg/L		104	75 - 125
Lead	0.00035	U	0.0500	0.0471		mg/L		94	75 - 125
Lithium	0.0011	U	0.0500	0.0480		mg/L		96	75 - 125
Molybdenum	0.00085	U	0.0500	0.0492		mg/L		98	75 - 125
Selenium	0.00049	I V	0.0500	0.0580		mg/L		115	75 - 125
Thallium	0.000085	U	0.0100	0.0102		mg/L		102	75 - 125

Lab Sample ID: 400-154742-1 MSD — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402069 — **Prep Batch: 401913**

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	0.0562		mg/L		112	75 - 125	2	20
Arsenic	0.00046	U	0.0500	0.0517		mg/L		103	75 - 125	1	20
Barium	0.018		0.0500	0.0708		mg/L		106	75 - 125	1	20
Beryllium	0.00034	U	0.0500	0.0529		mg/L		106	75 - 125	1	20
Boron	0.021	U	0.100	0.115		mg/L		115	75 - 125	1	20
Cadmium	0.00034	U	0.0500	0.0532		mg/L		106	75 - 125	0	20
Calcium	0.90		5.00	5.94		mg/L		101	75 - 125	2	20
Chromium	0.0011	U	0.0500	0.0512		mg/L		102	75 - 125	1	20
Cobalt	0.00051	I	0.0500	0.0527		mg/L		104	75 - 125	1	20
Lead	0.00035	U	0.0500	0.0482		mg/L		96	75 - 125	2	20
Lithium	0.0011	U	0.0500	0.0496		mg/L		99	75 - 125	3	20
Molybdenum	0.00085	U	0.0500	0.0492		mg/L		98	75 - 125	0	20
Selenium	0.00049	I V	0.0500	0.0556		mg/L		110	75 - 125	4	20
Thallium	0.000085	U	0.0100	0.0103		mg/L		103	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-401749/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402434 — **Prep Batch: 401749**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/23/18 14:33	06/25/18 09:22	1

Lab Sample ID: LCS 400-401749/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402434 — **Prep Batch: 401749**

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

Lab Sample ID: 400-155153-B-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402434 — **Prep Batch: 401749**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00144	J3	mg/L		72	80 - 120

Lab Sample ID: 400-155153-B-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402434 — **Prep Batch: 401749**

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	0.00131	J3	mg/L		65	80 - 120	10	20

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

Lab Sample ID: MB 400-400731/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400731

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			06/11/18 17:02	1

Lab Sample ID: LCS 400-400731/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400731

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: 400-154742-1 DU — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400731

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	10		10.0		mg/L		0	5

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 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-403017/56 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403017

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.60	U	2.0	0.60	mg/L			06/29/18 11:00	1

Lab Sample ID: LCS 400-403017/57 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403017

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.0		mg/L		103	90 - 110

Lab Sample ID: MRL 400-403017/53 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403017

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: 400-154742-4 MS — **Client Sample ID: MW-306**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403017

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.6		10.0	16.4		mg/L		107	73 - 120

Lab Sample ID: 400-154742-4 MSD — **Client Sample ID: MW-306**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403017

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.6		10.0	16.1		mg/L		104	73 - 120	2	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-400986/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400986

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			06/13/18 13:46	1

Lab Sample ID: LCS 400-400986/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400986

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

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-154790-A-25 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400986

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

Lab Sample ID: 400-154790-A-25 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400986

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	1.00		mg/L		100	75 - 125	0	4

Lab Sample ID: 400-154790-A-33 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.15			0.150		mg/L				0	4

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: 400-154742-4 MS — **Client Sample ID: MW-306**
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: 400-154742-4 MSD — **Client Sample ID: MW-306**
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 400-402914/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402914

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			06/28/18 13:34	1

Lab Sample ID: LCS 400-402914/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402914

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.2		mg/L		101	90 - 110

Lab Sample ID: MRL 400-402914/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402914

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.74		mg/L		115	50 - 150

Lab Sample ID: 400-155251-G-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402914

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	30		10.0	36.3	J3	mg/L		66	77 - 128

Lab Sample ID: 400-155251-G-9 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402914

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	30		10.0	36.7	J3	mg/L		70	77 - 128	1	5

Lab Sample ID: MB 400-403143/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403143

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 08:50	1

Lab Sample ID: LCS 400-403143/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.1		mg/L		101	90 - 110

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

Lab Sample ID: MRL 400-403143/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403143

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.77		mg/L		115	50 - 150

Lab Sample ID: 400-154816-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403143

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1.4	U	10.0	11.5		mg/L		115	77 - 128

Lab Sample ID: 400-154816-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403143

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	11.5		mg/L		115	77 - 128	0	5

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-370240/21-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374245 — **Prep Batch: 370240**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1310	U	0.0817	0.0825	1.00	0.305	pCi/L	06/13/18 08:51	07/06/18 19:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.8*		*40 - 110*	*06/13/18 08:51*	*07/06/18 19:46*	*1*

Lab Sample ID: LCS 160-370240/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374218 — **Prep Batch: 370240**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.8	11.13		1.36	1.00	0.267	pCi/L	94	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.6*		*40 - 110*

Lab Sample ID: LCSD 160-370240/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374218 — **Prep Batch: 370240**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.8	10.48		1.31	1.00	0.236	pCi/L	89	68 - 137	0.24	1

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

Lab Sample ID: LCSD 160-370240/2-A
Matrix: Water
Analysis Batch: 374218

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 370240

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	101		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-370246/21-A
Matrix: Water
Analysis Batch: 374349

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 370246

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1866	U	0.273	0.273	1.00	0.457	pCi/L	06/13/18 09:16	07/06/18 11:56	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	80.8		40 - 110	06/13/18 09:16	07/06/18 11:56	1
Y Carrier	89.7		40 - 110	06/13/18 09:16	07/06/18 11:56	1

Lab Sample ID: LCS 160-370246/1-A
Matrix: Water
Analysis Batch: 374350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 370246

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.17	9.015		1.06	1.00	0.363	pCi/L	110	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.6		40 - 110
Y Carrier	86.4		40 - 110

Lab Sample ID: LCSD 160-370246/2-A
Matrix: Water
Analysis Batch: 374350

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 370246

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.17	8.487		1.01	1.00	0.369	pCi/L	104	56 - 140	0.25	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	101		40 - 110
Y Carrier	89.0		40 - 110

QC Sample Results

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

TestAmerica Job ID: 400-154742-1
SDG: Background

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

Lab Sample ID: 180-78507-A-4 DU
Matrix: Water
Analysis Batch: 374406

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	-0.0470	U		0.1799	U	0.198	5.00	0.319	pCi/L			0.57	

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

Chain of Custody Record

TestAmerica
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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 Plant Crist
Site: Background

Sampler: Brett Sulos
Phone: 850 380 2458
Lab PM: Whitmire, Cheyenne R
E-Mail: cheyenne.whitmire@testamericainc.com
Carrier Tracking No(s):
COC No:
Page: 1 - 1
Job #:

Due Date Requested:
TAT Requested (days):
PO #: Purchase Order not required
WO #:
Project #: 40005424
SSOW#:

Analysis Requested

400-154742 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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-100	6/5/18	0944	G	Water			X	X	X	X		
MW-107	6/5/18	0820	G	Water			X	X	X	X		
MW-108	6/5/18	0710	G	Water			X	X	X	X		
MW-306	6/6/18	0813	G	Water			X	X	X	X		
MW-307	6/6/18	0959	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]	6/6/18 1418	RDT	[signature]	6.6.18 1418	TA Pen
			[signature]	6/7/18 825	TA-PEN

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.0°C IR 7

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154742-1
SDG Number: Background

Login Number: 154742
List Number: 1
Creator: Conrady, Hank W

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 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: 400-154742-1
SDG Number: Background

Login Number: 154742
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/12/18 05:38 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 Plant Crist

TestAmerica Job ID: 400-154742-1
SDG: Background

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.

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.

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
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Tel: (850)474-1001

TestAmerica Job ID: 400-154909-1
TestAmerica Sample Delivery Group: Landfill 1
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
7/16/2018 5:16:05 PM

Cheyenne Whitmire, Project Manager II
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LINKS

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 9
Sample Summary 10
Client Sample Results 11
Definitions 37
Chronicle 38
QC Association 46
QC Sample Results 52
Chain of Custody 60
Receipt Checklists 62
Certification Summary 64

Job ID: 400-154909-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154909-1

RAD
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: MW-101 (400-154909-1), MW-102 (400-154909-2), MW-103 (400-154909-3), MW-104 (400-154909-4), MW-105 (400-154909-5), MW-106 (400-154909-6), MW-109 (400-154909-7), MW-110 (400-154909-8), EB-03 (400-154909-9), FB-03 (400-154909-10), DUP-04 (400-154909-11), MW-201 (400-154909-12), MW-202 (400-154909-13), DUP-03 (400-154909-14) and FB-03 (400-154909-15). 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 160-370790: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-101 (400-154909-1), MW-102 (400-154909-2), MW-103 (400-154909-3), MW-104 (400-154909-4), MW-105 (400-154909-5), MW-106 (400-154909-6), MW-109 (400-154909-7), MW-110 (400-154909-8), EB-03 (400-154909-9), FB-03 (400-154909-10), DUP-04 (400-154909-11), MW-201 (400-154909-12), MW-202 (400-154909-13), DUP-03 (400-154909-14) and FB-03 (400-154909-15). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 402096 and analytical batch 402344 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-104 (400-154909-4), MW-105 (400-154909-5), MW-110 (400-154909-8), DUP-04 (400-154909-11) and MW-201 (400-154909-12). 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 403252 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-104 (400-154909-4), MW-105 (400-154909-5), MW-110 (400-154909-8), DUP-04 (400-154909-11), MW-201 (400-154909-12), (400-154909-A-12 MS) and (400-154909-A-12 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 403365 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-104 (400-154909-4), MW-105 (400-154909-5), MW-110 (400-154909-8), DUP-04 (400-154909-11), MW-201 (400-154909-12), (400-155392-G-1), (400-155392-G-1 MS) and (400-155392-G-1 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 F C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 403517 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Detection Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-101 — Lab Sample ID: 400-154909-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00046	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.0092		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.39		0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.00028	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	8.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.2		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.5	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.12				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-102 — Lab Sample ID: 400-154909-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0089		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.55		0.25	0.13	mg/L	5		6020	Total Recoverable
Selenium	0.00028	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	8.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	4.9		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.7	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.81				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-103 — Lab Sample ID: 400-154909-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.053		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.26		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	3.5		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0015	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0030		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	96		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	8.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	34		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.02				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-104 — Lab Sample ID: 400-154909-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0047		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.025		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0011	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-104 (Continued) — Lab Sample ID: 400-154909-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00049	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	67		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0022	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.029		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lead	0.0024		0.0013	0.00035	mg/L	5		6020	Total Recoverable
Lithium	0.019		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.015		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00033	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	12		1.0	0.42	mg/L	100		6020	Total Recoverable
Mercury	0.0014		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	1500		25	17	mg/L	1		SM 2540C	Total/NA
Chloride	190		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.38		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	760		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	3.97				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-105 — Lab Sample ID: 400-154909-5

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	0.055		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	86		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0020	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0035	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00043	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	2.4		0.25	0.11	mg/L	25		6020	Total Recoverable
Total Dissolved Solids	560		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	140		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Sulfate	96		25	7.0	mg/L	5		SM 4500 SO4 E	Total/NA
Field pH	5.96				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-106 — Lab Sample ID: 400-154909-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0089		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.066		0.050	0.021	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-106 (Continued) — Lab Sample ID: 400-154909-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.39		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00040	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	6.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.6		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	1.4	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.99				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-109 — Lab Sample ID: 400-154909-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.016		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.11		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	2.6		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0044		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0042	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	26		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.0		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	10		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.78				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-110 — Lab Sample ID: 400-154909-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00050	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.036		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	30		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0096		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0090		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0037		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00029	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	4.2		0.25	0.11	mg/L	25		6020	Total Recoverable
Mercury	0.0042		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	670		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	140		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	270		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	4.77				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: EB-03 — Lab Sample ID: 400-154909-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.040	I	0.050	0.021	mg/L	5		6020	Total Recoverable

Client Sample ID: FB-03 — Lab Sample ID: 400-154909-10

No Detections.

Client Sample ID: DUP-04 — Lab Sample ID: 400-154909-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0036		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.054		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	86		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0020	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0031	I	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00026	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Boron - DL	2.4		0.25	0.11	mg/L	25		6020	Total Recoverable
Total Dissolved Solids	540		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	140		10	3.0	mg/L	5		SM 4500 Cl- E	Total/NA
Sulfate	96		25	7.0	mg/L	5		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-201 — Lab Sample ID: 400-154909-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00063	I	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.029		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.0029		0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	64		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0016	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0044	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0047		0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00023	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	4.1		0.25	0.11	mg/L	25		6020	Total Recoverable
Mercury	0.00032		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	430		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	86		4.0	1.2	mg/L	2		SM 4500 Cl- E	Total/NA
Fluoride	0.78		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	170		25	7.0	mg/L	5		SM 4500 SO4 E	Total/NA
Field pH	4.81				SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-202 — Lab Sample ID: 400-154909-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.072		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.11		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	5.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0019	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lead	0.00037	I	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Lithium	0.0013	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00049	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.00070		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	72		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	24		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	18		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.58				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-03 — Lab Sample ID: 400-154909-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.071		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.085		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	5.7		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0019	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0011	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00047	I	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.00064		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	16		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	24		2.0	0.60	mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.070	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	18		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA

Client Sample ID: FB-03 — Lab Sample ID: 400-154909-15

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

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
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
7470A	Preparation, Mercury	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 Plant Crist

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154909-1	MW-101	Water	06/10/18 06:49	06/11/18 14:02
400-154909-2	MW-102	Water	06/11/18 12:46	06/11/18 14:02
400-154909-3	MW-103	Water	06/11/18 08:19	06/11/18 14:02
400-154909-4	MW-104	Water	06/10/18 10:27	06/11/18 14:02
400-154909-5	MW-105	Water	06/10/18 08:57	06/11/18 14:02
400-154909-6	MW-106	Water	06/10/18 07:59	06/11/18 14:02
400-154909-7	MW-109	Water	06/11/18 11:31	06/11/18 14:02
400-154909-8	MW-110	Water	06/11/18 10:12	06/11/18 14:02
400-154909-9	EB-03	Water	06/10/18 10:50	06/11/18 14:02
400-154909-10	FB-03	Water	06/11/18 09:00	06/11/18 14:02
400-154909-11	DUP-04	Water	06/10/18 07:57	06/11/18 14:02
400-154909-12	MW-201	Water	06/09/18 10:18	06/11/18 14:02
400-154909-13	MW-202	Water	06/09/18 11:59	06/11/18 14:02
400-154909-14	DUP-03	Water	06/09/18 10:59	06/11/18 14:02
400-154909-15	FB-03	Water	06/09/18 10:00	06/11/18 14:02

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-101

Date Collected: 06/10/18 06:49
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-1

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		06/22/18 09:44	06/22/18 18:36	5
Arsenic	**0.00046**	**I**	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 18:36	5
Barium	**0.0092**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 18:36	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 18:36	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 18:36	5
Calcium	**0.39**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 18:36	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 18:36	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 18:36	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 18:36	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 18:36	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 18:36	5
Selenium	**0.00028**	**I**	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 18:36	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 18:36	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 09:44	06/25/18 12:55	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		06/25/18 16:38	06/27/18 12:34	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8.0**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**5.2**		2.0	0.60	mg/L			07/02/18 13:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 12:32	1
Sulfate	**1.5**	**I**	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	**0.365**		0.172	0.175	1.00	0.186	pCi/L	06/16/18 12:16	07/11/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*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	**0.594**		0.221	0.228	1.00	0.294	pCi/L	06/16/18 13:10	07/10/18 14:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:40*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:40*	*1*

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-101

Date Collected: 06/10/18 06:49
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-1

Matrix: Water

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	0.959		0.280	0.287	5.00	0.294	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	5.12				SU			06/10/18 06:49	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-102

Date Collected: 06/11/18 12:46
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-2

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		06/22/18 09:44	06/22/18 19:03	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:03	5
Barium	**0.0089**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:03	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:03	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 09:44	06/22/18 19:03	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:03	5
Calcium	**0.55**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:03	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:03	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:03	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:03	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:03	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:03	5
Selenium	**0.00028**	**I**	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:03	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:03	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		06/25/18 16:38	06/27/18 12:36	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8.0**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**4.9**		2.0	0.60	mg/L			07/02/18 13:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 12:39	1
Sulfate	**1.7**	**I**	5.0	1.4	mg/L			07/03/18 09:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.427**		0.193	0.197	1.00	0.211	pCi/L	06/16/18 12:16	07/11/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*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	**1.09**		0.281	0.298	1.00	0.336	pCi/L	06/16/18 13:10	07/10/18 14:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:40*	*1*
Y Carrier	*88.6*		*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	**1.51**		0.341	0.357	5.00	0.336	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-102

Date Collected: 06/11/18 12:46
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-2

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.81				SU			06/11/18 12:40	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-103

Date Collected: 06/11/18 08:19
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-3

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		06/22/18 09:44	06/22/18 19:07	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:07	5
Barium	**0.053**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:07	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:07	5
Boron	**0.26**		0.050	0.021	mg/L		06/22/18 09:44	06/22/18 19:07	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:07	5
Calcium	**3.5**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:07	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:07	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:07	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:07	5
Lithium	**0.0015**	**I**	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:07	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:07	5
Selenium	**0.0030**		0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:07	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:07	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		06/25/18 16:38	06/27/18 12:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**96**		5.0	3.4	mg/L			06/18/18 12:59	1
Chloride	**8.0**		2.0	0.60	mg/L			07/02/18 13:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 12:43	1
Sulfate	**34**		5.0	1.4	mg/L			07/03/18 09:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.86**		0.358	0.395	1.00	0.199	pCi/L	06/16/18 12:16	07/11/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*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	**3.68**		0.447	0.561	1.00	0.383	pCi/L	06/16/18 13:10	07/10/18 14:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:40*	*1*
Y Carrier	*85.6*		*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	**5.54**		0.573	0.686	5.00	0.383	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-103

Date Collected: 06/11/18 08:19
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-3

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.02				SU			06/11/18 08:19	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-104

Date Collected: 06/10/18 10:27
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-4

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		06/22/18 09:44	06/22/18 19:12	5
Arsenic	**0.0047**		0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:12	5
Barium	**0.025**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:12	5
Beryllium	**0.0011**	**I**	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:12	5
Cadmium	**0.00049**	**I**	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:12	5
Calcium	**67**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:12	5
Chromium	**0.0022**	**I**	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:12	5
Cobalt	**0.029**		0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:12	5
Lead	**0.0024**		0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:12	5
Lithium	**0.019**		0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:12	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:12	5
Selenium	**0.015**		0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:12	5
Thallium	**0.00033**	**I**	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:12	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**12**		1.0	0.42	mg/L		06/22/18 09:44	06/26/18 14:52	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0014**		0.00020	0.000070	mg/L		06/25/18 16:38	06/27/18 12:40	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1500**		25	17	mg/L			06/15/18 15:50	1
Chloride	**190**		10	3.0	mg/L			07/02/18 14:12	5
Fluoride	**0.38**		0.10	0.032	mg/L			07/05/18 12:47	1
Sulfate	**760**		150	42	mg/L			07/03/18 11:04	30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**4.59**		0.528	0.670	1.00	0.210	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	**14.6**		0.779	1.55	1.00	0.324	pCi/L	06/16/18 13:10	07/10/18 14:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:41*	*1*
Y Carrier	*92.3*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:41*	*1*

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-104

Date Collected: 06/10/18 10:27
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-4

Matrix: Water

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	19.1		0.941	1.69	5.00	0.324	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	3.97				SU			06/10/18 10:27	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-105

Date Collected: 06/10/18 08:57
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-5

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		06/22/18 09:44	06/22/18 19:16	5
Arsenic	**0.0034**		0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:16	5
Barium	**0.055**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:16	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:16	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:16	5
Calcium	**86**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:16	5
Chromium	**0.0020**	**I**	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:16	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:16	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:16	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:16	5
Molybdenum	**0.0035**	**I**	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:16	5
Selenium	**0.00043**	**I**	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:16	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.4**		0.25	0.11	mg/L		06/22/18 09:44	06/26/18 14:56	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		06/25/18 16:38	06/27/18 12:41	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**560**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**140**		10	3.0	mg/L			07/02/18 14:12	5
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 12:50	1
Sulfate	**96**		25	7.0	mg/L			07/03/18 09:50	5

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.93**		0.363	0.402	1.00	0.194	pCi/L	06/16/18 12:16	07/11/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*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	**4.28**		0.464	0.608	1.00	0.342	pCi/L	06/16/18 13:10	07/10/18 14:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:42*	*1*
Y Carrier	*85.6*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:42*	*1*

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-105

Date Collected: 06/10/18 08:57
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-5

Matrix: Water

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	6.20		0.589	0.729	5.00	0.342	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	5.96				SU			06/10/18 08:57	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-106

Date Collected: 06/10/18 07:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-6

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		06/22/18 09:44	06/22/18 19:21	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:21	5
Barium	**0.0089**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:21	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:21	5
Boron	**0.066**		0.050	0.021	mg/L		06/22/18 09:44	06/22/18 19:21	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:21	5
Calcium	**0.39**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:21	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:21	5
Cobalt	**0.00040**	**I**	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:21	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:21	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:21	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:21	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:21	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:21	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		06/25/18 16:38	06/27/18 12:43	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6.0**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**3.6**		2.0	0.60	mg/L			07/02/18 13:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 12:52	1
Sulfate	**1.4**	**I**	5.0	1.4	mg/L			07/03/18 09:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.286**		0.158	0.161	1.00	0.187	pCi/L	06/16/18 12:16	07/11/18 05:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*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	**0.566**		0.245	0.251	1.00	0.348	pCi/L	06/16/18 13:10	07/10/18 14:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:42*	*1*
Y Carrier	*89.7*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:42*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.852**		0.292	0.298	5.00	0.348	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-106

Date Collected: 06/10/18 07:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-6

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.99				SU			06/10/18 07:59	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-109

Date Collected: 06/11/18 11:31
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-7

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		06/22/18 09:44	06/22/18 19:25	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:25	5
Barium	**0.016**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:25	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:25	5
Boron	**0.11**		0.050	0.021	mg/L		06/22/18 09:44	06/22/18 19:25	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:25	5
Calcium	**2.6**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:25	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:25	5
Cobalt	**0.0044**		0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:25	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:25	5
Lithium	**0.0042**	**I**	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:25	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:25	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:25	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:25	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		06/25/18 16:38	06/27/18 12:45	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**26**		5.0	3.4	mg/L			06/18/18 12:59	1
Chloride	**6.0**		2.0	0.60	mg/L			07/02/18 13:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 12:56	1
Sulfate	**10**		5.0	1.4	mg/L			07/03/18 09:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.492**		0.196	0.201	1.00	0.185	pCi/L	06/16/18 12:16	07/11/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 12:16*	*07/11/18 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	**1.10**		0.280	0.298	1.00	0.337	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*89.3*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*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	**1.59**		0.342	0.359	5.00	0.337	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-109

Date Collected: 06/11/18 11:31
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-7

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.78				SU			06/11/18 11:31	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-110

Date Collected: 06/11/18 10:12
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-8

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		06/22/18 09:44	06/22/18 19:30	5
Arsenic	**0.00050**	**I**	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:30	5
Barium	**0.036**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:30	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:30	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:30	5
Calcium	**30**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:30	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:30	5
Cobalt	**0.0096**		0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:30	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:30	5
Lithium	**0.0090**		0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:30	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:30	5
Selenium	**0.0037**		0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:30	5
Thallium	**0.00029**	**I**	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:30	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.2**		0.25	0.11	mg/L		06/22/18 09:44	06/25/18 13:09	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0042**		0.00020	0.000070	mg/L		06/25/18 16:38	06/27/18 12:47	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**670**		5.0	3.4	mg/L			06/18/18 12:59	1
Chloride	**140**		10	3.0	mg/L			07/02/18 14:14	5
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			07/05/18 13:00	1
Sulfate	**270**		100	28	mg/L			07/03/18 09:53	20

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.34**		0.396	0.448	1.00	0.189	pCi/L	06/16/18 12:16	07/11/18 05:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 12:16*	*07/11/18 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	**4.72**		0.464	0.636	1.00	0.335	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*91.2*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-110

Date Collected: 06/11/18 10:12
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-8

Matrix: Water

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	7.06		0.610	0.778	5.00	0.335	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	4.77				SU			06/11/18 10:12	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: EB-03

Date Collected: 06/10/18 10:50
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-9

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		06/22/18 09:44	06/22/18 19:34	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:34	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:34	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:34	5
Boron	**0.040**	**I**	0.050	0.021	mg/L		06/22/18 09:44	06/22/18 19:34	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:34	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:34	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:34	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:34	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:34	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:34	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:34	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:34	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:34	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		06/25/18 16:38	06/27/18 13:05	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			06/15/18 15:50	1
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 13:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 13:03	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/03/18 09:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00958	U	0.0883	0.0883	1.00	0.187	pCi/L	06/16/18 12:16	07/11/18 05:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:47*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0360	U	0.174	0.174	1.00	0.310	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*90.1*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*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	0.0456	U	0.195	0.195	5.00	0.310	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: FB-03

Date Collected: 06/11/18 09:00
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-10

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		06/22/18 09:44	06/22/18 19:39	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:39	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:39	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:39	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 09:44	06/22/18 19:39	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:39	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:39	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:39	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:39	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:39	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:39	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:39	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		06/25/18 16:38	06/27/18 13:07	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			06/18/18 12:59	1
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 13:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 13:54	1
Sulfate	1.4	U	5.0	1.4	mg/L			07/03/18 09:06	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0791	U	0.0990	0.0993	1.00	0.161	pCi/L	06/16/18 12:16	07/11/18 05:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:47*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0979	U	0.187	0.188	1.00	0.321	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*86.7*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*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	0.177	U	0.212	0.213	5.00	0.321	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: DUP-04

Date Collected: 06/10/18 07:57
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-11

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		06/22/18 09:44	06/22/18 19:43	5
Arsenic	**0.0036**		0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 19:43	5
Barium	**0.054**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 19:43	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:43	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 19:43	5
Calcium	**86**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 19:43	5
Chromium	**0.0020**	**I**	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 19:43	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 19:43	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 19:43	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 19:43	5
Molybdenum	**0.0031**	**I**	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 19:43	5
Selenium	**0.00026**	**I**	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 19:43	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 19:43	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.4**		0.25	0.11	mg/L		06/22/18 09:44	06/25/18 13:13	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		06/25/18 16:38	06/27/18 13:08	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**540**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**140**		10	3.0	mg/L			07/02/18 14:14	5
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 13:45	1
Sulfate	**96**		25	7.0	mg/L			07/03/18 09:50	5

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.64**		0.357	0.387	1.00	0.213	pCi/L	06/16/18 12:16	07/11/18 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:49*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**3.89**		0.450	0.575	1.00	0.360	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*86.7*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: DUP-04

Date Collected: 06/10/18 07:57
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-11

Matrix: Water

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	5.53		0.574	0.693	5.00	0.360	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-201

Date Collected: 06/09/18 10:18
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-12

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		06/22/18 09:44	06/22/18 20:10	5
Arsenic	**0.00063**	**I**	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 20:10	5
Barium	**0.029**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 20:10	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:10	5
Cadmium	**0.0029**		0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:10	5
Calcium	**64**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 20:10	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 20:10	5
Cobalt	**0.0016**	**I**	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 20:10	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 20:10	5
Lithium	**0.0044**	**I**	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 20:10	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 20:10	5
Selenium	**0.0047**		0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 20:10	5
Thallium	**0.00023**	**I**	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 20:10	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.1**		0.25	0.11	mg/L		06/22/18 09:44	06/25/18 13:18	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00032**		0.00020	0.000070	mg/L		06/25/18 16:38	06/27/18 13:10	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**430**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**86**		4.0	1.2	mg/L			07/02/18 14:12	2
Fluoride	**0.78**		0.10	0.032	mg/L			07/05/18 12:13	1
Sulfate	**170**		25	7.0	mg/L			07/03/18 09:50	5

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.98**		0.474	0.545	1.00	0.223	pCi/L	06/16/18 12:16	07/11/18 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:49*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**3.54**		0.433	0.541	1.00	0.348	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*85.2*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-201

Date Collected: 06/09/18 10:18
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-12

Matrix: Water

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	6.52		0.642	0.768	5.00	0.348	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	4.81				SU			06/09/18 10:18	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-202

Date Collected: 06/09/18 11:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-13

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		06/22/18 09:44	06/22/18 20:15	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 20:15	5
Barium	**0.072**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 20:15	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:15	5
Boron	**0.11**		0.050	0.021	mg/L		06/22/18 09:44	06/22/18 20:15	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:15	5
Calcium	**5.8**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 20:15	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 20:15	5
Cobalt	**0.0019**	**I**	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 20:15	5
Lead	**0.00037**	**I**	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 20:15	5
Lithium	**0.0013**	**I**	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 20:15	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 20:15	5
Selenium	**0.00049**	**I**	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 20:15	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 20:15	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00070**		0.00020	0.000070	mg/L		06/25/18 16:38	06/27/18 13:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**72**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**24**		2.0	0.60	mg/L			07/02/18 13:10	1
Fluoride	**0.070**	**I**	0.10	0.032	mg/L			07/05/18 12:16	1
Sulfate	**18**		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	**1.85**		0.376	0.411	1.00	0.227	pCi/L	06/16/18 12:16	07/11/18 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:49*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.51**		0.297	0.327	1.00	0.312	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*90.8*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*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	**3.36**		0.479	0.525	5.00	0.312	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-202

Date Collected: 06/09/18 11:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-13

Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.58				SU			06/09/18 11:59	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: DUP-03

Date Collected: 06/09/18 10:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-14

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		06/22/18 09:44	06/22/18 20:19	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 20:19	5
Barium	**0.071**		0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 20:19	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:19	5
Boron	**0.085**		0.050	0.021	mg/L		06/22/18 09:44	06/22/18 20:19	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:19	5
Calcium	**5.7**		0.25	0.13	mg/L		06/22/18 09:44	06/22/18 20:19	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 20:19	5
Cobalt	**0.0019**	**I**	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 20:19	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 20:19	5
Lithium	**0.0011**	**I**	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 20:19	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 20:19	5
Selenium	**0.00047**	**I**	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 20:19	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 20:19	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00064**		0.00020	0.000070	mg/L		06/25/18 16:38	06/27/18 13:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**16**		5.0	3.4	mg/L			06/15/18 15:50	1
Chloride	**24**		2.0	0.60	mg/L			07/02/18 13:10	1
Fluoride	**0.070**	**I**	0.10	0.032	mg/L			07/05/18 12:20	1
Sulfate	**18**		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	**1.98**		0.406	0.443	1.00	0.254	pCi/L	06/16/18 12:16	07/11/18 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:49*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.95**		0.347	0.391	1.00	0.338	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.6*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*88.6*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*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	**3.94**		0.534	0.591	5.00	0.338	pCi/L		07/12/18 17:53	1

Client Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: FB-03

Date Collected: 06/09/18 10:00
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-15

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		06/22/18 09:44	06/22/18 20:24	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 20:24	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 20:24	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:24	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 09:44	06/22/18 20:24	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 20:24	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 09:44	06/22/18 20:24	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 20:24	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 20:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 20:24	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 20:24	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 20:24	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 20:24	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 20:24	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		06/25/18 16:38	06/27/18 13:16	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			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			07/05/18 12:24	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	0.0879	U	0.147	0.147	1.00	0.257	pCi/L	06/16/18 12:16	07/11/18 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 12:16*	*07/11/18 05:49*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.115	U	0.167	0.168	1.00	0.281	pCi/L	06/16/18 13:10	07/10/18 14:43	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*1*
Y Carrier	*89.3*		*40 - 110*	*06/16/18 13:10*	*07/10/18 14:43*	*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	0.203	U	0.222	0.223	5.00	0.281	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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.

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 Plant Crist

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-101

Lab Sample ID: 400-154909-1
Date Collected: 06/10/18 06:49
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 18:36	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	402495	06/25/18 12:55	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:34	JAP	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	403517	07/05/18 12:32	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
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
Total/NA	Analysis	Field Sampling		1	404432	06/10/18 06:49	CDH	TAL PEN

Client Sample ID: MW-102

Lab Sample ID: 400-154909-2
Date Collected: 06/11/18 12:46
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:03	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:36	JAP	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 13:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:39	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:06	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
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
Total/NA	Analysis	Field Sampling		1	404432	06/11/18 12:40	CDH	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-103

Lab Sample ID: 400-154909-3

Date Collected: 06/11/18 08:19
Date Received: 06/11/18 14:02

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:07	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:38	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401473	06/18/18 12:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403252	07/02/18 13:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:43	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:06	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
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
Total/NA	Analysis	Field Sampling		1	404432	06/11/18 08:19	CDH	TAL PEN

Client Sample ID: MW-104

Lab Sample ID: 400-154909-4

Date Collected: 06/10/18 10:27
Date Received: 06/11/18 14:02

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:12	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	402689	06/26/18 14:52	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:40	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	403252	07/02/18 14:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:47	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	403365	07/03/18 11:04	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
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374666	07/10/18 14:41	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	06/10/18 10:27	CDH	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-105

Lab Sample ID: 400-154909-5

Date Collected: 06/10/18 08:57
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:16	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402689	06/26/18 14:56	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:41	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	403252	07/02/18 14:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:50	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		5	403365	07/03/18 09:50	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
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:42	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/10/18 08:57	CDH	TAL PEN

Client Sample ID: MW-106

Lab Sample ID: 400-154909-6

Date Collected: 06/10/18 07:59
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:21	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:43	JAP	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 13:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:52	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:06	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
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:42	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/10/18 07:59	CDH	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-109

Lab Sample ID: 400-154909-7

Date Collected: 06/11/18 11:31
Date Received: 06/11/18 14:02

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:25	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:45	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401473	06/18/18 12:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403252	07/02/18 13:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:56	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:06	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 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/11/18 11:31	CDH	TAL PEN

Client Sample ID: MW-110

Lab Sample ID: 400-154909-8

Date Collected: 06/11/18 10:12
Date Received: 06/11/18 14:02

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:30	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402495	06/25/18 13:09	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 12:47	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401473	06/18/18 12:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	403252	07/02/18 14:14	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 13:00	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	403365	07/03/18 09:53	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 05:46	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/11/18 10:12	CDH	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: EB-03

Lab Sample ID: 400-154909-9
Date Collected: 06/10/18 10:50
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:34	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 13:05	JAP	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 13:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 13:03	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:06	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370790	06/16/18 12:16	JLC	TAL SL
Total/NA	Analysis	9315		1	374835	07/11/18 05:47	CDR	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: FB-03

Lab Sample ID: 400-154909-10
Date Collected: 06/11/18 09:00
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:39	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 13:07	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401473	06/18/18 12:59	RRC	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	403252	07/02/18 13:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403537	07/05/18 13:54	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	403365	07/03/18 09:06	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370790	06/16/18 12:16	JLC	TAL SL
Total/NA	Analysis	9315		1	374835	07/11/18 05:47	CDR	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: DUP-04

Lab Sample ID: 400-154909-11
Date Collected: 06/10/18 07:57
Matrix: Water
Date Received: 06/11/18 14:02

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 19:43	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402495	06/25/18 13:13	DRE	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: DUP-04
Date Collected: 06/10/18 07:57
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 13:08	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	403252	07/02/18 14:14	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403537	07/05/18 13:45	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		5	403365	07/03/18 09:50	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370790	06/16/18 12:16	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 05:49	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: MW-201
Date Collected: 06/09/18 10:18
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 20:10	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402495	06/25/18 13:18	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 13:10	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401134	06/15/18 15:50	VLS	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		2	403252	07/02/18 14:12	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:13	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		5	403365	07/03/18 09:50	RRC	TAL PEN
Total/NA	Prep	PrecSep-21			370790	06/16/18 12:16	JLC	TAL SL
Total/NA	Analysis	9315		1	374837	07/11/18 05:49	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/09/18 10:18	CDH	TAL PEN

Client Sample ID: MW-202
Date Collected: 06/09/18 11:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 20:15	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-202
Date Collected: 06/09/18 11:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7470A		1	402757	06/27/18 13:12	JAP	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	403517	07/05/18 12:16	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	374837	07/11/18 05:49	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL
Total/NA	Analysis	Field Sampling		1	404432	06/09/18 11:59	CDH	TAL PEN

Client Sample ID: DUP-03
Date Collected: 06/09/18 10:59
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 20:19	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 13:14	JAP	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	403517	07/05/18 12:20	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	374837	07/11/18 05:49	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	375258	07/12/18 17:53	RTM	TAL SL

Client Sample ID: FB-03
Date Collected: 06/09/18 10:00
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			402096	06/22/18 09:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 20:24	DRE	TAL PEN
Total/NA	Prep	7470A			402447	06/25/18 16:38	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402757	06/27/18 13:16	JAP	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

Lab Chronicle

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: FB-03

Date Collected: 06/09/18 10:00
Date Received: 06/11/18 14:02

Lab Sample ID: 400-154909-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 F C		1	403517	07/05/18 12:24	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	374837	07/11/18 05:49	RTM	TAL SL
Total/NA	Prep	PrecSep_0			370793	06/16/18 13:10	JLC	TAL SL
Total/NA	Analysis	9320		1	374561	07/10/18 14:43	ALS	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 Plant Crist

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Metals

Prep Batch: 402096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total Recoverable	Water	3005A	
400-154909-1 - RA	MW-101	Total Recoverable	Water	3005A	
400-154909-2	MW-102	Total Recoverable	Water	3005A	
400-154909-3	MW-103	Total Recoverable	Water	3005A	
400-154909-4	MW-104	Total Recoverable	Water	3005A	
400-154909-4 - DL	MW-104	Total Recoverable	Water	3005A	
400-154909-5 - DL	MW-105	Total Recoverable	Water	3005A	
400-154909-5	MW-105	Total Recoverable	Water	3005A	
400-154909-6	MW-106	Total Recoverable	Water	3005A	
400-154909-7	MW-109	Total Recoverable	Water	3005A	
400-154909-8 - DL	MW-110	Total Recoverable	Water	3005A	
400-154909-8	MW-110	Total Recoverable	Water	3005A	
400-154909-9	EB-03	Total Recoverable	Water	3005A	
400-154909-10	FB-03	Total Recoverable	Water	3005A	
400-154909-11	DUP-04	Total Recoverable	Water	3005A	
400-154909-11 - DL	DUP-04	Total Recoverable	Water	3005A	
400-154909-12	MW-201	Total Recoverable	Water	3005A	
400-154909-12 - DL	MW-201	Total Recoverable	Water	3005A	
400-154909-13	MW-202	Total Recoverable	Water	3005A	
400-154909-14	DUP-03	Total Recoverable	Water	3005A	
400-154909-15	FB-03	Total Recoverable	Water	3005A	
MB 400-402096/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402096/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-155370-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-155370-A-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
400-154909-1	MW-101	Total Recoverable	Water	6020	402096
400-154909-2	MW-102	Total Recoverable	Water	6020	402096
400-154909-3	MW-103	Total Recoverable	Water	6020	402096
400-154909-4	MW-104	Total Recoverable	Water	6020	402096
400-154909-5	MW-105	Total Recoverable	Water	6020	402096
400-154909-6	MW-106	Total Recoverable	Water	6020	402096
400-154909-7	MW-109	Total Recoverable	Water	6020	402096
400-154909-8	MW-110	Total Recoverable	Water	6020	402096
400-154909-9	EB-03	Total Recoverable	Water	6020	402096
400-154909-10	FB-03	Total Recoverable	Water	6020	402096
400-154909-11	DUP-04	Total Recoverable	Water	6020	402096
400-154909-12	MW-201	Total Recoverable	Water	6020	402096
400-154909-13	MW-202	Total Recoverable	Water	6020	402096
400-154909-14	DUP-03	Total Recoverable	Water	6020	402096
400-154909-15	FB-03	Total Recoverable	Water	6020	402096
MB 400-402096/1-A ^5	Method Blank	Total Recoverable	Water	6020	402096
LCS 400-402096/2-A	Lab Control Sample	Total Recoverable	Water	6020	402096
400-155370-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	402096
400-155370-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	402096

Prep Batch: 402447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 402447 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-2	MW-102	Total/NA	Water	7470A	
400-154909-3	MW-103	Total/NA	Water	7470A	
400-154909-4	MW-104	Total/NA	Water	7470A	
400-154909-5	MW-105	Total/NA	Water	7470A	
400-154909-6	MW-106	Total/NA	Water	7470A	
400-154909-7	MW-109	Total/NA	Water	7470A	
400-154909-8	MW-110	Total/NA	Water	7470A	
400-154909-9	EB-03	Total/NA	Water	7470A	
400-154909-10	FB-03	Total/NA	Water	7470A	
400-154909-11	DUP-04	Total/NA	Water	7470A	
400-154909-12	MW-201	Total/NA	Water	7470A	
400-154909-13	MW-202	Total/NA	Water	7470A	
400-154909-14	DUP-03	Total/NA	Water	7470A	
400-154909-15	FB-03	Total/NA	Water	7470A	
MB 400-402447/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-402447/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-155379-B-1-F MS	Matrix Spike	Total/NA	Water	7470A	
400-155379-B-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 402495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1 - RA	MW-101	Total Recoverable	Water	6020	402096
400-154909-8 - DL	MW-110	Total Recoverable	Water	6020	402096
400-154909-11 - DL	DUP-04	Total Recoverable	Water	6020	402096
400-154909-12 - DL	MW-201	Total Recoverable	Water	6020	402096

Analysis Batch: 402689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-4 - DL	MW-104	Total Recoverable	Water	6020	402096
400-154909-5 - DL	MW-105	Total Recoverable	Water	6020	402096

Analysis Batch: 402757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	7470A	402447
400-154909-2	MW-102	Total/NA	Water	7470A	402447
400-154909-3	MW-103	Total/NA	Water	7470A	402447
400-154909-4	MW-104	Total/NA	Water	7470A	402447
400-154909-5	MW-105	Total/NA	Water	7470A	402447
400-154909-6	MW-106	Total/NA	Water	7470A	402447
400-154909-7	MW-109	Total/NA	Water	7470A	402447
400-154909-8	MW-110	Total/NA	Water	7470A	402447
400-154909-9	EB-03	Total/NA	Water	7470A	402447
400-154909-10	FB-03	Total/NA	Water	7470A	402447
400-154909-11	DUP-04	Total/NA	Water	7470A	402447
400-154909-12	MW-201	Total/NA	Water	7470A	402447
400-154909-13	MW-202	Total/NA	Water	7470A	402447
400-154909-14	DUP-03	Total/NA	Water	7470A	402447
400-154909-15	FB-03	Total/NA	Water	7470A	402447
MB 400-402447/14-A	Method Blank	Total/NA	Water	7470A	402447
LCS 400-402447/15-A	Lab Control Sample	Total/NA	Water	7470A	402447
400-155379-B-1-F MS	Matrix Spike	Total/NA	Water	7470A	402447

Metals (Continued)

Analysis Batch: 402757 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155379-B-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	402447

General Chemistry

Analysis Batch: 401134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	SM 2540C	
400-154909-2	MW-102	Total/NA	Water	SM 2540C	
400-154909-4	MW-104	Total/NA	Water	SM 2540C	
400-154909-5	MW-105	Total/NA	Water	SM 2540C	
400-154909-6	MW-106	Total/NA	Water	SM 2540C	
400-154909-9	EB-03	Total/NA	Water	SM 2540C	
400-154909-11	DUP-04	Total/NA	Water	SM 2540C	
400-154909-12	MW-201	Total/NA	Water	SM 2540C	
400-154909-13	MW-202	Total/NA	Water	SM 2540C	
400-154909-14	DUP-03	Total/NA	Water	SM 2540C	
400-154909-15	FB-03	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	
400-154909-5 DU	MW-105	Total/NA	Water	SM 2540C	

Analysis Batch: 401473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-3	MW-103	Total/NA	Water	SM 2540C	
400-154909-7	MW-109	Total/NA	Water	SM 2540C	
400-154909-8	MW-110	Total/NA	Water	SM 2540C	
400-154909-10	FB-03	Total/NA	Water	SM 2540C	
MB 400-401473/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-401473/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-154909-3 DU	MW-103	Total/NA	Water	SM 2540C	
400-154909-7 DU	MW-109	Total/NA	Water	SM 2540C	

Analysis Batch: 403252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	SM 4500 Cl- E	
400-154909-2	MW-102	Total/NA	Water	SM 4500 Cl- E	
400-154909-3	MW-103	Total/NA	Water	SM 4500 Cl- E	
400-154909-4	MW-104	Total/NA	Water	SM 4500 Cl- E	
400-154909-5	MW-105	Total/NA	Water	SM 4500 Cl- E	
400-154909-6	MW-106	Total/NA	Water	SM 4500 Cl- E	
400-154909-7	MW-109	Total/NA	Water	SM 4500 Cl- E	
400-154909-8	MW-110	Total/NA	Water	SM 4500 Cl- E	
400-154909-9	EB-03	Total/NA	Water	SM 4500 Cl- E	
400-154909-10	FB-03	Total/NA	Water	SM 4500 Cl- E	
400-154909-11	DUP-04	Total/NA	Water	SM 4500 Cl- E	
400-154909-12	MW-201	Total/NA	Water	SM 4500 Cl- E	
400-154909-13	MW-202	Total/NA	Water	SM 4500 Cl- E	
400-154909-14	DUP-03	Total/NA	Water	SM 4500 Cl- E	
400-154909-15	FB-03	Total/NA	Water	SM 4500 Cl- E	
MB 400-403252/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 403252 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-403252/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-403252/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-154909-12 MS	MW-201	Total/NA	Water	SM 4500 Cl- E	
400-154909-12 MSD	MW-201	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 403365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	SM 4500 SO4 E	
400-154909-2	MW-102	Total/NA	Water	SM 4500 SO4 E	
400-154909-3	MW-103	Total/NA	Water	SM 4500 SO4 E	
400-154909-4	MW-104	Total/NA	Water	SM 4500 SO4 E	
400-154909-5	MW-105	Total/NA	Water	SM 4500 SO4 E	
400-154909-6	MW-106	Total/NA	Water	SM 4500 SO4 E	
400-154909-7	MW-109	Total/NA	Water	SM 4500 SO4 E	
400-154909-8	MW-110	Total/NA	Water	SM 4500 SO4 E	
400-154909-9	EB-03	Total/NA	Water	SM 4500 SO4 E	
400-154909-10	FB-03	Total/NA	Water	SM 4500 SO4 E	
400-154909-11	DUP-04	Total/NA	Water	SM 4500 SO4 E	
400-154909-12	MW-201	Total/NA	Water	SM 4500 SO4 E	
400-154909-13	MW-202	Total/NA	Water	SM 4500 SO4 E	
400-154909-14	DUP-03	Total/NA	Water	SM 4500 SO4 E	
400-154909-15	FB-03	Total/NA	Water	SM 4500 SO4 E	
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	
400-154909-1 MS	MW-101	Total/NA	Water	SM 4500 SO4 E	
400-154909-1 MSD	MW-101	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 403517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	SM 4500 F C	
400-154909-2	MW-102	Total/NA	Water	SM 4500 F C	
400-154909-3	MW-103	Total/NA	Water	SM 4500 F C	
400-154909-4	MW-104	Total/NA	Water	SM 4500 F C	
400-154909-5	MW-105	Total/NA	Water	SM 4500 F C	
400-154909-6	MW-106	Total/NA	Water	SM 4500 F C	
400-154909-7	MW-109	Total/NA	Water	SM 4500 F C	
400-154909-8	MW-110	Total/NA	Water	SM 4500 F C	
400-154909-9	EB-03	Total/NA	Water	SM 4500 F C	
400-154909-12	MW-201	Total/NA	Water	SM 4500 F C	
400-154909-13	MW-202	Total/NA	Water	SM 4500 F C	
400-154909-14	DUP-03	Total/NA	Water	SM 4500 F C	
400-154909-15	FB-03	Total/NA	Water	SM 4500 F C	
MB 400-403517/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403517/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154880-B-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-154880-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-154909-1 DU	MW-101	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 403537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-10	FB-03	Total/NA	Water	SM 4500 F C	
400-154909-11	DUP-04	Total/NA	Water	SM 4500 F C	
MB 400-403537/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-403537/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-154909-11 MS	DUP-04	Total/NA	Water	SM 4500 F C	
400-154909-11 MSD	DUP-04	Total/NA	Water	SM 4500 F C	
400-155356-B-7 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Rad

Prep Batch: 370790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154909-1	MW-101	Total/NA	Water	PrecSep-21	
400-154909-2	MW-102	Total/NA	Water	PrecSep-21	
400-154909-3	MW-103	Total/NA	Water	PrecSep-21	
400-154909-4	MW-104	Total/NA	Water	PrecSep-21	
400-154909-5	MW-105	Total/NA	Water	PrecSep-21	
400-154909-6	MW-106	Total/NA	Water	PrecSep-21	
400-154909-7	MW-109	Total/NA	Water	PrecSep-21	
400-154909-8	MW-110	Total/NA	Water	PrecSep-21	
400-154909-9	EB-03	Total/NA	Water	PrecSep-21	
400-154909-10	FB-03	Total/NA	Water	PrecSep-21	
400-154909-11	DUP-04	Total/NA	Water	PrecSep-21	
400-154909-12	MW-201	Total/NA	Water	PrecSep-21	
400-154909-13	MW-202	Total/NA	Water	PrecSep-21	
400-154909-14	DUP-03	Total/NA	Water	PrecSep-21	
400-154909-15	FB-03	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
400-154909-1	MW-101	Total/NA	Water	PrecSep_0	
400-154909-2	MW-102	Total/NA	Water	PrecSep_0	
400-154909-3	MW-103	Total/NA	Water	PrecSep_0	
400-154909-4	MW-104	Total/NA	Water	PrecSep_0	
400-154909-5	MW-105	Total/NA	Water	PrecSep_0	
400-154909-6	MW-106	Total/NA	Water	PrecSep_0	
400-154909-7	MW-109	Total/NA	Water	PrecSep_0	
400-154909-8	MW-110	Total/NA	Water	PrecSep_0	
400-154909-9	EB-03	Total/NA	Water	PrecSep_0	
400-154909-10	FB-03	Total/NA	Water	PrecSep_0	
400-154909-11	DUP-04	Total/NA	Water	PrecSep_0	
400-154909-12	MW-201	Total/NA	Water	PrecSep_0	
400-154909-13	MW-202	Total/NA	Water	PrecSep_0	
400-154909-14	DUP-03	Total/NA	Water	PrecSep_0	
400-154909-15	FB-03	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	

Rad (Continued)

Prep Batch: 370793 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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
400-154909-1	MW-101	Total/NA	Water	Field Sampling	
400-154909-2	MW-102	Total/NA	Water	Field Sampling	
400-154909-3	MW-103	Total/NA	Water	Field Sampling	
400-154909-4	MW-104	Total/NA	Water	Field Sampling	
400-154909-5	MW-105	Total/NA	Water	Field Sampling	
400-154909-6	MW-106	Total/NA	Water	Field Sampling	
400-154909-7	MW-109	Total/NA	Water	Field Sampling	
400-154909-8	MW-110	Total/NA	Water	Field Sampling	
400-154909-12	MW-201	Total/NA	Water	Field Sampling	
400-154909-13	MW-202	Total/NA	Water	Field Sampling	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-402096/1-A ^5
Matrix: Water
Analysis Batch: 402344

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402096

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		06/22/18 09:44	06/22/18 17:51	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		06/22/18 09:44	06/22/18 17:51	5
Barium	0.00049	U	0.0025	0.00049	mg/L		06/22/18 09:44	06/22/18 17:51	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 17:51	5
Boron	0.021	U	0.050	0.021	mg/L		06/22/18 09:44	06/22/18 17:51	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		06/22/18 09:44	06/22/18 17:51	5
Calcium	0.13	U	0.25	0.13	mg/L		06/22/18 09:44	06/22/18 17:51	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		06/22/18 09:44	06/22/18 17:51	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		06/22/18 09:44	06/22/18 17:51	5
Lead	0.00035	U	0.0013	0.00035	mg/L		06/22/18 09:44	06/22/18 17:51	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		06/22/18 09:44	06/22/18 17:51	5
Molybdenum	0.00085	U	0.015	0.00085	mg/L		06/22/18 09:44	06/22/18 17:51	5
Selenium	0.00024	U	0.0013	0.00024	mg/L		06/22/18 09:44	06/22/18 17:51	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		06/22/18 09:44	06/22/18 17:51	5

Lab Sample ID: LCS 400-402096/2-A
Matrix: Water
Analysis Batch: 402344

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 402096

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0527		mg/L		105	80 - 120
Arsenic	0.0500	0.0480		mg/L		96	80 - 120
Barium	0.0500	0.0498		mg/L		100	80 - 120
Beryllium	0.0500	0.0499		mg/L		100	80 - 120
Boron	0.100	0.0899		mg/L		90	80 - 120
Cadmium	0.0500	0.0504		mg/L		101	80 - 120
Calcium	5.00	4.84		mg/L		97	80 - 120
Chromium	0.0500	0.0481		mg/L		96	80 - 120
Cobalt	0.0500	0.0499		mg/L		100	80 - 120
Lead	0.0500	0.0496		mg/L		99	80 - 120
Lithium	0.0500	0.0512		mg/L		102	80 - 120
Molybdenum	0.0500	0.0517		mg/L		103	80 - 120
Selenium	0.0500	0.0530		mg/L		106	80 - 120
Thallium	0.0100	0.0101		mg/L		101	80 - 120

Lab Sample ID: 400-155370-A-1-B MS ^5
Matrix: Water
Analysis Batch: 402344

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 402096

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0559		mg/L		112	75 - 125
Arsenic	0.059		0.0500	0.108		mg/L		99	75 - 125
Barium	0.0064		0.0500	0.0569		mg/L		101	75 - 125
Beryllium	0.00034	U	0.0500	0.0531		mg/L		106	75 - 125
Boron	0.021	U	0.100	0.0634	J3	mg/L		63	75 - 125
Cadmium	0.00034	U	0.0500	0.0510		mg/L		102	75 - 125
Calcium	10		5.00	15.3		mg/L		99	75 - 125
Chromium	0.0011	U	0.0500	0.0489		mg/L		98	75 - 125

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

Lab Sample ID: 400-155370-A-1-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402096**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	U	0.0500	0.0507		mg/L		101	75 - 125
Lead	0.00035	U	0.0500	0.0477		mg/L		95	75 - 125
Lithium	0.0011	U	0.0500	0.0469		mg/L		94	75 - 125
Molybdenum	0.0019	I	0.0500	0.0550		mg/L		106	75 - 125
Selenium	0.00092	I	0.0500	0.0563		mg/L		111	75 - 125
Thallium	0.000085	U	0.0100	0.0101		mg/L		101	75 - 125

Lab Sample ID: 400-155370-A-1-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402344 — **Prep Batch: 402096**

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	0.0556		mg/L		111	75 - 125	1	20
Arsenic	0.059		0.0500	0.108		mg/L		99	75 - 125	0	20
Barium	0.0064		0.0500	0.0580		mg/L		103	75 - 125	2	20
Beryllium	0.00034	U	0.0500	0.0544		mg/L		109	75 - 125	2	20
Boron	0.021	U	0.100	0.0534	J3	mg/L		53	75 - 125	17	20
Cadmium	0.00034	U	0.0500	0.0516		mg/L		103	75 - 125	1	20
Calcium	10		5.00	15.4		mg/L		100	75 - 125	0	20
Chromium	0.0011	U	0.0500	0.0488		mg/L		98	75 - 125	0	20
Cobalt	0.00040	U	0.0500	0.0512		mg/L		102	75 - 125	1	20
Lead	0.00035	U	0.0500	0.0478		mg/L		96	75 - 125	0	20
Lithium	0.0011	U	0.0500	0.0467		mg/L		93	75 - 125	0	20
Molybdenum	0.0019	I	0.0500	0.0533		mg/L		103	75 - 125	3	20
Selenium	0.00092	I	0.0500	0.0558		mg/L		110	75 - 125	1	20
Thallium	0.000085	U	0.0100	0.0100		mg/L		100	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-402447/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402757 — **Prep Batch: 402447**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		06/25/18 16:26	06/27/18 11:35	1

Lab Sample ID: LCS 400-402447/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402757 — **Prep Batch: 402447**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000944		mg/L		94	80 - 120

Lab Sample ID: 400-155379-B-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402757 — **Prep Batch: 402447**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00188		mg/L		93	80 - 120

Lab Sample ID: 400-155379-B-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402757 — **Prep Batch: 402447**

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	0.00183		mg/L		91	80 - 120	3	20

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

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

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: 400-154909-5 DU — **Client Sample ID: MW-105**
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: MB 400-401473/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401473

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			06/18/18 12:59	1

Lab Sample ID: LCS 400-401473/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401473

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: 400-154909-3 DU — **Client Sample ID: MW-103**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401473

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	96		96.0		mg/L		0	5

Lab Sample ID: 400-154909-7 DU — **Client Sample ID: MW-109**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401473

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

Method: SM 4500 Cl- E - Chloride, Total

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: MRL 400-403252/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403252

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.87	I	mg/L		94	50 - 150

Lab Sample ID: 400-154909-12 MS — **Client Sample ID: MW-201**
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	86		20.0	90.8	J3	mg/L		24	73 - 120

Lab Sample ID: 400-154909-12 MSD — **Client Sample ID: MW-201**
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	86		20.0	91.3	J3	mg/L		27	73 - 120	1	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-403517/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403517

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 11:36	1

Lab Sample ID: LCS 400-403517/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.87		mg/L		97	90 - 110

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-154880-B-5 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.10		1.00	0.700	J3	mg/L		60	75 - 125		

Lab Sample ID: 400-154880-B-5 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.10		1.00	0.700	J3	mg/L		60	75 - 125	0	4

Lab Sample ID: 400-154909-1 DU — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403517

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 400-403537/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403537

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 13:33	1

Lab Sample ID: LCS 400-403537/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403537

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: 400-154909-11 MS — **Client Sample ID: DUP-04**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403537

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: 400-154909-11 MSD — **Client Sample ID: DUP-04**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403537

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: 400-155356-B-7 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 403537

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.090	I		0.0900	I	mg/L				0	4

Method: SM 4500 SO4 E - Sulfate, Total

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

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: 400-154909-1 MS — **Client Sample ID: MW-101**
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: 400-154909-1 MSD — **Client Sample ID: MW-101**
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 160-370790/23-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*

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

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 160-370793/23-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374561 — **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 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 374666 — **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		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*93.5*		*40 - 110*

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

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
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 Plant Crist
Site: Landfill 1

Sampler: Brett Surles
Phone: 850 380 3458
Due Date Requested:
TAT Requested (days):
PO #: Purchase Order not required
WO #:
Project #: 40005424
SSOW#:

Lab PM: Whitmire, Cheyenne R
E-Mail: cheyenne.whitmire@testamericainc.com
Carrier Tracking No(s):
COC No:
Page: 1-1
Job #:

400-154909 COC

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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-101	6/10/18	0649	G	Water			Y	Y	Y	Y		
MW-102	6/11/18	1240	G	Water								
MW-103	6/11/18	0819	G	Water								
MW-104	6/10/18	1027	G	Water								
MW-105	6/10/18	0857	G	Water								
MW-106	6/10/18	0759	G	Water								
MW-109	6/11/18	1131	G	Water								
MW-110	6/11/18	1012	G	Water								
EB-03	6/10/18	1050	G	W								
FB-03	6/11/18	0900	G	W								
DUP-04	6/10/18	0757	G	W			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]	6/11/18 1402	RDH	[signature]	6.11.18 1402	TA. Pen

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.1°C, 0.8°C, 0.5°C IR8

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 Surles	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-1
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 Plant Crist	Project #: 40005424			
Site: Gypsum Storage Area	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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
~~MW-200~~				~~Water~~								
MW-201	6/9/18	1018	G	Water			X	X	X	X		
MW-202	6/9/18	1159	G	Water			X	X	X	X		
~~MW-203~~ DUP -03	6/9/18	1059	G	Water			X	X	X	X		
~~MW-204~~ FB - 03	6/9/18	1000	G	Water			X	X	X	X		
~~MW-205~~				Water								
~~MW-206~~				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
	6/11/18 1402	KDT		6.11.18 1402	TA-Pen
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: 0.1°C, 0.8°C, 0.5°C IR8

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154909-1
SDG Number: Landfill 1

Login Number: 154909
List Number: 1
Creator: Ott, Tina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1°C, 0.8°C, 0.5°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-154909-1
SDG Number: Landfill 1

Login Number: 154909
List Number: 2
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis
List Creation: 06/13/18 03:32 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 Plant Crist

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

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 Plant Crist

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

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.

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date: August 21, 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 400-154742-1, 440-154816-1, 400-154880-1 and 440-154909-1

SITE: Plant Crist

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-five aqueous samples, four field duplicate samples, three field blanks and three equipment blanks collected from June 05 to June 11, 2018, as part of the Plant Crist 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 4500 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
- Combined 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
400-154742-1	MW-100
400-154742-2	MW-107
400-154742-3	MW-108
400-154742-4	MW-306
400-154742-5	MW-307
400-154816-1	MW-300
400-154816-2	MW-303
400-154816-3	MW-304
400-154816-4	MW-305
400-154816-5	MW-308
400-154816-6	DUP-01
400-154816-7	EQ-01
400-154816-8	FB-01

Laboratory ID	Client ID
400-154880-1	MW-200
400-154880-2	MW-203
400-154880-3	MW-204
400-154880-4	MW-205
400-154880-5	MW-206
400-154880-6	DUP-02
400-154880-7	EB-02
400-154909-1	MW-101
400-154909-2	MW-102
400-154909-3	MW-103
400-154909-4	MW-104
400-154909-5	MW-105
400-154909-6	MW-106

Laboratory ID	Client ID
400-154909-7	MW-109
400-154909-8	MW-110
400-154909-9	EB-03
400-154909-10	FB-03
400-154909-11	DUP-04

Laboratory ID	Client ID
400-154909-12	MW-201
400-154909-13	MW-202
400-154909-14	DUP-03
400-154909-15	FB-03

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.

The following issue was noted with the chain of custody (COC) forms:

- The COC for report 400-50790-1 has two *received by* signatures but only one *relinquished by* signature. This is did not result in any sample qualifications.

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
⊗ Equipment Blank
✓ Field 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 times were 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 401913 and 402096). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exception.

Selenium was detected at an estimated concentration, greater than the MDL and less the RL in the method blank for batch 401913. Therefore, the concentrations of selenium in the associated samples that were less than five times the method blank concentration were U* qualified as not detected at the reported value.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-100	Selenium	0.00049	I V	0.00049	U*	BL
MW-107	Selenium	0.00098	I V	0.00098	U*	BL
MW-108	Selenium	0.00065	I V	0.00065	U*	BL
MW-306	Selenium	0.00025	I V	0.00025	U*	BL
MW-307	Selenium	0.00026	I V	0.00026	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 at or above the MDL in both the sample and the associated method blank
* 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

1.4 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-100. 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 qualifications were not applied to the data.

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 Equipment Blank

Three equipment blanks were collected with the sample sets, EQ-01, EB-02 and EB-03. Metals were not detected in the equipment blanks above the MDLs, with the following exceptions.

Boron was detected at an estimated concentration, greater than the MDL and less the RL in EB-03. Therefore, the concentration of boron 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-106	Boron	0.066	NA	0.066	U*	BE
MW-109	Boron	0.11	NA	0.11	U*	BE

mg/L- milligram per liter
NA-not applicable

1.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-03 (collected 6/09/18) and FB-03 (collected 6/11/18). Metals were not detected in the field blanks above the MDLs.

1.8 Field Duplicate

Four field duplicate samples were collected with the sample sets, DUP-01, DUP-02, DUP-03 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-300, MW-200, MW-202 and MW-105, respectively, with the following exception.

The concentrations of boron were less than 5 times the reporting limit for both DUP-01 and MW-300 and the difference between the concentrations of boron in the field duplicate pair using samples DUP-01 and MW-300 was greater than the RL. Therefore, the concentrations of boron in samples DUP-01 and MW-300 were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
DUP-01	Boron	0.11	NA	128	0.0049	J	FD
MW-300	Boron	0.024	I		0.0064	J	FD

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

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
- ✓ Equipment Blank
- ✓ Field 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 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). Three method blanks were reported (batches 401749, 402415 and 402447). Mercury was not detected in the method blanks above the MDL.

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). Three batch MS/MSD pairs 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.

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 Equipment Blank

Three equipment blanks were collected with the sample sets, EQ-01, EB-02 and EB-03. Mercury was not detected in the equipment blanks above the MDL.

2.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-03 (collected 6/09/18) and FB-03 (collected 6/11/18). Mercury was not detected in the field blanks above the MDLs.

2.8 Field Duplicate

Four field duplicate samples were collected with the sample sets, DUP-01, DUP-02, DUP-03 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-300, MW-200, MW-202 and MW-105, 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
- ✓ Equipment Blank
- ✓ Field 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). Fourteen method blanks were reported (chloride batches 403017, 402992; 403169, 403212 and 403252; fluoride batches 400986, 403221, 403294, 403517 and 403537; sulfate batches 402914, 403143, 403304 and 403365). Anions were not detected in the method blanks above the MDLs.

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). Eleven sample set specific MS/MSD pairs were reported, using samples MW-306, MW-203, MW-205 and MW-201 for the chloride data; samples MW-306, MW-

206 and DUP-04 for the fluoride data; and samples MW-305, MW-203, MW-204 and MW-101 for the sulfate data. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

Both recoveries of chloride were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pairs using samples MW-201 and MW-205. Therefore, the concentrations of chloride in the associated samples were J qualified as estimated and the non-detect results of chloride were UJ qualified as estimated less than the MDL. Both recoveries of fluoride were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample MW-206. Therefore, the concentrations of fluoride in the associated samples were J qualified as estimated and the non-detect results of fluoride were UJ qualified as estimated less than the MDL. Both recoveries of sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pairs using samples MW-203 and MW-204. Therefore, the concentrations of sulfate in the associated samples were J qualified as estimated and the non-detect results of sulfate were UJ qualified as estimated less than the MDL

In addition, two batch MS/MSD pairs were reported for the chloride data, two batch MS/MSD pairs were reported for the fluoride data and two 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.

Sample	**Analyte**	**Laboratory Result (mg/L)**	**Laboratory Flag**	**Validation Result (mg/L)**	**Validation Qualifier**	**Reason Code**
MW-101	Chloride	5.2	NA	5.2	J	M-
DUP-03	Chloride	24	NA	24	J	M-
MW-102	Chloride	4.9	NA	4.9	J	M-
MW-103	Chloride	8	NA	8	J	M-
MW-104	Chloride	190	NA	190	J	M-
MW-202	Chloride	24	NA	24	J	M-
EB-03	Chloride	0.6	U	0.6	UJ	M-
FB-03	Chloride	0.6	U	0.6	UJ	M-
FB-03	Chloride	0.6	U	0.6	UJ	M-
MW-105	Chloride	140	NA	140	J	M-
MW-106	Chloride	3.6	NA	3.6	J	M-
MW-109	Chloride	6	NA	6	J	M-
MW-110	Chloride	140	NA	140	J	M-
MW-201	Chloride	86	NA	86	J	M-
MW-200	Chloride	680	NA	680	J	M-
MW-203	Chloride	15	NA	15	J	M-
MW-204	Chloride	82	NA	82	J	M-

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
MW-205	Chloride	43	NA	43	J	M-
MW-206	Chloride	1800	NA	1800	J	M-
DUP-02	Chloride	690	NA	690	J	M-
EB-02	Chloride	0.6	U	0.6	UJ	M-
MW-205	Fluoride	0.1	NA	0.1	J	M-
MW-206	Fluoride	0.1	NA	0.1	J	M-
DUP-02	Fluoride	0.14	NA	0.14	J	M-
EB-02	Fluoride	0.032	U	0.032	UJ	M-
MW-200	Sulfate	160	NA	160	J	M-
MW-203	Sulfate	100	NA	100	J	M-
MW-204	Sulfate	390	NA	390	J	M-
MW-205	Sulfate	180	NA	180	J	M-
MW-206	Sulfate	440	NA	440	J	M-
DUP-02	Sulfate	190	NA	190	J	M-
EB-02	Sulfate	1.4	U	1.4	UJ	M-

mg/L- milligram per liter
NA- not applicable
U-not detected at the MDL
I-the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

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). Fourteen LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

3.6 Equipment Blank

Three equipment blanks were collected with the sample sets, EQ-01, EB-02 and EB-03. Anions were not detected in the equipment blanks above the MDLs.

3.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-03 (collected 6/09/18) and FB-03 (collected 6/11/18). Anions were not detected in the field blanks above the MDLs.

3.8 Field Duplicate

Four field duplicate samples were collected with the sample sets, DUP-01, DUP-02, DUP-03 and DUP-04. Acceptable precision [(RPD $\leq$ 20% or the difference between the concentrations <

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reporting limit (RL)] was demonstrated between the field duplicates and original samples MW-300, MW-200, MW-202 and MW-105, respectively.

3.9 Sensitivity

The samples were reported to the MDLs. 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 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
✓ Equipment Blank
✓ Field 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). Seven method blanks were reported (batches 400731, 400737, 400826, 400948, 400955, 401134 and 401473). 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). Seven LCSs were reported. The recovery results were within the laboratory and SOP specified acceptance criteria.

4.5 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported, using samples MW-100, MW-103, MW-105, MW-109, MW-204 and MW-308. The RPD results were within the laboratory specified acceptance criteria.

In addition, two 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 Equipment Blank

Three equipment blanks were collected with the sample sets, EQ-01, EB-02 and EB-03. TDS was not detected in the equipment blanks above the MDLs.

4.7 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-03 (collected 6/09/18) and FB-03 (collected 6/11/18). TDS was not detected in the field blanks above the MDLs.

4.8 Field Duplicate

Four field duplicate samples were collected with the sample sets, DUP-01, DUP-02, DUP-03 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-300, MW-200, MW-202 and MW-105, respectively, with the following exception.

The concentration of TDS was less than 5 times the reporting limit for sample DUP-03 and the difference between the concentrations of TDS in the field duplicate pair using samples DUP-03 and MW-202 was greater than the RL. Therefore the concentrations of TDS in samples DUP-03 and MW-202 were J qualified as estimated.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD	Validation Result (mg/L)	Validation Qualifier	Reason Code
DUP-03	Total Dissolved Solids	16	NA	127	16	J	FD
MW-202	Total Dissolved Solids	72	NA		72	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
- ✓ Equipment Blank
- ✓ Field 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). Four method blanks were reported for the radium-226 data (batches 370240, 370636, 369971 and 370790). Four method blanks were reported for the radium-228 data (batches 370246, 370639, 369991 and 370793). 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). Four LCS/LCS duplicate (LCSD) pairs were reported for radium-226 and four 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.

5.6 Laboratory Duplicate

Four batch laboratory duplicates were reported for the combined radium 226+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 Equipment Blank

Three equipment blanks were collected with the sample sets, EQ-01, EB-02 and EB-03. Radium was not detected in the equipment blanks above the MDCs.

5.9 Field Blank

Three field blanks were collected with the sample sets, FB-01, FB-03 (collected 6/09/18) and FB-03 (collected 6/11/18). Radium was not detected in the field blanks above the MDCs.

5.10 Field Duplicate

Four field duplicate samples were collected with the sample sets, DUP-01, DUP-02, DUP-03 and DUP-04. Acceptable precision [(RER (2σ) $\geq$3] was demonstrated between the field duplicates and original samples MW-300, MW-200, MW-202 and MW-105, 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.

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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: 2018-10-19 13:22:28

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	125 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	115.1 ft

Well Information:		Pumping Information:	
Well ID	MW-102	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7779279 L
Well Total Depth	120.1 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.35 in
Depth to Water	104.25 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	13:00:22	300.06	26.19	5.33	44.86	47.50	104.60	7.65	124.88
Last 5	13:05:22	600.06	26.13	5.29	46.27	16.10	104.60	7.67	123.42
Last 5	13:10:22	900.06	25.64	5.23	45.43	4.55	104.60	7.69	123.52
Last 5	13:15:22	1200.06	25.60	5.18	45.59	2.62	104.60	7.70	122.72
Last 5	13:20:22	1500.06	25.78	5.15	45.21	2.93	104.60	7.68	122.42
Variance 0			-0.49	-0.06	-0.83			0.02	0.10
Variance 1			-0.04	-0.05	0.16			0.01	-0.80
Variance 2			0.18	-0.03	-0.39			-0.02	-0.29

Notes

Sample time @1325. Sunny 85.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 14:19:04

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	120 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	115.2 ft

Well Information:		Pumping Information:	
Well ID	MW-103	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7556108 L
Well Total Depth	120.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	113.30 ft	Total Volume Pumped	62 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	13:53:23	8118.05	25.61	4.92	125.98	1.48	113.35	8.40	116.63
Last 5	13:58:25	8420.06	25.64	4.92	121.19	1.53	113.35	8.97	116.70
Last 5	14:03:27	8722.05	25.40	4.91	122.09	1.57	113.35	8.57	117.22
Last 5	14:08:27	9022.10	25.19	4.93	121.89	1.69	113.35	8.69	116.18
Last 5	14:13:28	9323.06	25.41	4.93	121.87	1.72	113.35	8.61	115.61
Variance 0			-0.24	-0.01	0.90			-0.39	0.52
Variance 1			-0.20	0.01	-0.21			0.12	-1.04
Variance 2			0.21	0.00	-0.02			-0.08	-0.58

Notes

Sample time @ 1420. Field Blank 02 @ 1430. Sunny 80.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 11:07:27

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR LF-1	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	90 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	HACH	Pump placement from TOC	83.1 ft

Well Information:		Pumping Information:	
Well ID	MW-104	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.621708 L
Well Total Depth	88.1 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	60.22 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	10:45:11	1500.02	23.56	4.32	1335.87	2.38	60.22	5.83	446.73
Last 5	10:50:11	1800.01	23.61	4.19	1393.49	2.13	60.22	5.76	504.83
Last 5	10:55:11	2100.02	23.64	4.15	1423.64	1.34	60.22	5.73	526.96
Last 5	11:00:11	2400.04	23.61	4.13	1437.23	0.87	60.22	5.72	546.99
Last 5	11:05:11	2700.02	23.65	4.12	1441.88	0.75	60.22	5.71	553.07
Variance 0			0.04	-0.04	30.14			-0.03	22.12
Variance 1			-0.04	-0.02	13.60			-0.01	20.04
Variance 2			0.04	-0.01	4.65			-0.01	6.08

Notes

Sample@1106, Sunny 75

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 09:31:08

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR LF-1	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	45 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	HACH	Pump placement from TOC	38.2 ft

Well Information:		Pumping Information:	
Well ID	MW-105	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.420854 L
Well Total Depth	43.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	22.24 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.2	+/- 0.2	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	09:08:48	600.03	22.80	6.19	475.34	22.10	22.24	0.22	-54.05
Last 5	09:13:48	900.01	22.84	6.19	473.30	14.80	22.24	0.17	-53.10
Last 5	09:18:48	1200.02	22.93	6.19	472.54	9.84	22.24	0.15	-52.44
Last 5	09:23:48	1500.02	22.98	6.19	472.55	9.57	22.24	0.14	-50.89
Last 5	09:28:48	1800.03	23.02	6.19	471.62	9.45	22.24	0.13	-50.75
Variance 0			0.08	0.00	-0.76			-0.02	0.66
Variance 1			0.05	-0.00	0.01			-0.01	1.55
Variance 2			0.04	-0.00	-0.92			-0.01	0.14

Notes

Sample @0930, Sunny 70

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 08:16:19

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR LF-1	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	95 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	HACH	Pump placement from TOC	87.8 ft

Well Information:		Pumping Information:	
Well ID	MW-106	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6440251 L
Well Total Depth	92.8 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	67.85 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%	+/- 10		+/- 0.2	+/- 10
Last 5	07:59:39	300.03	20.97	5.13	24.67	2.35	67.86	8.47	104.79
Last 5	08:04:39	600.02	21.10	5.12	24.51	1.11	67.86	8.44	101.57
Last 5	08:09:39	900.02	21.19	5.09	24.52	0.93	67.86	8.42	102.40
Last 5	08:14:39	1200.02	21.24	5.07	24.40	0.74	67.86	8.41	102.72
Last 5									
Variance 0			0.13	-0.02	-0.16			-0.03	-3.23
Variance 1			0.09	-0.03	0.01			-0.02	0.83
Variance 2			0.05	-0.02	-0.12			-0.01	0.32

Notes

Sample@0815, Sunny 64

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 10:57:55

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	135 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	128.3 ft

Well Information:		Pumping Information:	
Well ID	MW-109	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.8225621 L
Well Total Depth	133.3 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.07 in
Depth to Water	112.43 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%	+/- 10		+/- 0.2	+/- 10
Last 5	10:40:30	300.05	25.42	4.78	49.83	5.91	112.50	7.94	186.78
Last 5	10:45:30	600.05	25.51	4.78	49.43	4.05	112.50	7.82	172.82
Last 5	10:50:30	900.05	25.57	4.77	49.94	3.59	112.50	7.80	168.46
Last 5	10:55:31	1201.05	25.67	4.76	50.56	2.68	112.50	7.87	174.48
Last 5									
Variance 0			0.09	-0.00	-0.40			-0.13	-13.96
Variance 1			0.06	-0.01	0.51			-0.02	-4.36
Variance 2			0.10	-0.01	0.62			0.08	6.02

Notes

Sample time @1100. Sunny 80. Equipment blank @1105.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 09:52:39

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	120 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	113.8 ft

Well Information:		Pumping Information:	
Well ID	MW-110	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7556108 L
Well Total Depth	118.8 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	82.65 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	09:29:33	2401.05	24.53	4.71	967.83	2.93	82.70	3.40	497.25
Last 5	09:34:33	2701.05	24.42	4.71	997.03	2.69	82.70	3.29	500.22
Last 5	09:39:33	3001.04	24.51	4.72	1017.22	2.52	82.70	3.18	499.54
Last 5	09:44:36	3304.05	24.69	4.72	1030.83	1.85	82.70	3.08	503.75
Last 5	09:49:36	3604.04	24.69	4.73	1050.19	1.68	82.70	2.99	503.37
Variance 0			0.09	0.00	20.19			-0.11	-0.68
Variance 1			0.18	0.01	13.61			-0.10	4.21
Variance 2			-0.00	0.01	19.36			-0.09	-0.39

Notes

Sample time @ 0955. Sunny 75. Duplicate @0855.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-16 12:57:05

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	125 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	113.8 ft

Well Information:		Pumping Information:	
Well ID	MW-100	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7779279 L
Well Total Depth	118.8 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	91.45 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	12:34:06	300.04	25.83	4.93	35.48	5.01	91.50	7.72	145.36
Last 5	12:39:06	600.04	25.69	4.92	35.91	3.91	91.50	7.73	136.10
Last 5	12:44:06	900.05	25.50	4.92	35.96	3.50	91.50	7.69	130.60
Last 5	12:49:06	1200.04	25.60	4.93	35.89	1.90	91.50	7.57	125.99
Last 5	12:54:06	1500.04	25.47	4.93	35.86	1.33	91.50	7.59	122.08
Variance 0			-0.19	0.00	0.05			-0.03	-5.51
Variance 1			0.10	0.00	-0.07			-0.12	-4.61
Variance 2			-0.13	-0.00	-0.03			0.02	-3.91

Notes

Sample time @1300. Sunny 85.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-18 07:07:33

Project Information:		Pump Information:	
Operator Name	Brett Surles	Pump Model/Type	QED
Company Name	RDH	Tubing Type	PE
Project Name	Crist CCR LF-1	Tubing Diameter	.17 in
Site Name	Crist plant CCR	Tubing Length	120 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597516		
Turbidity Make/Model	HACH	Pump placement from TOC	113.1 ft

Well Information:		Pumping Information:	
Well ID	MW-101	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7556108 L
Well Total Depth	118.1 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	97.79 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	06:55:55	300.02	20.03	5.00	25.27	3.17	97.78	9.34	102.56
Last 5	07:00:55	600.02	20.12	4.98	25.22	1.87	97.79	9.29	98.20
Last 5	07:05:55	900.02	20.11	4.97	25.30	1.46	97.79	9.27	96.19
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.09	-0.02	-0.06			-0.06	-4.36
Variance 2			-0.01	-0.01	0.09			-0.02	-2.02

Notes

Sample@0706 , clear 64

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-16 11:23:44

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	125 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	118.7 ft

Well Information:		Pumping Information:	
Well ID	MW-107	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7779279 L
Well Total Depth	123.7 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.01 in
Depth to Water	103.30 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	11:01:05	900.04	25.52	4.99	24.19	0.53	103.31	8.47	146.82
Last 5	11:06:05	1200.04	25.73	5.00	24.41	0.50	103.31	8.49	140.26
Last 5	11:11:06	1501.04	25.60	4.98	24.52	0.55	103.31	8.53	134.48
Last 5	11:16:06	1801.04	25.63	4.98	24.49	0.43	103.31	8.59	129.97
Last 5	11:21:06	2101.04	25.52	4.98	24.57	0.40	103.31	8.55	126.05
Variance 0			-0.13	-0.01	0.11			0.04	-5.79
Variance 1			0.03	-0.00	-0.03			0.06	-4.50
Variance 2			-0.11	-0.00	0.07			-0.04	-3.93

Notes

Sample time @1125. PC 85. Dup-01 sample time @ 1025.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-16 09:41:41

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	105 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	92.9 ft

Well Information:		Pumping Information:	
Well ID	MW-108	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6886594 L
Well Total Depth	97.9 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.04 in
Depth to Water	71.65 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	09:27:43	300.04	23.25	4.84	37.88	0.64	71.69	8.27	117.28
Last 5	09:32:43	600.04	23.24	4.80	36.69	0.55	71.69	8.44	118.16
Last 5	09:37:43	900.04	23.12	4.81	36.46	0.40	71.69	8.45	117.51
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.01	-0.05	-1.19			0.18	0.87
Variance 2			-0.12	0.02	-0.23			0.01	-0.64

Notes

Sample time @ 0940. PC 80.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-17 08:50:51

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	95 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	88.2 ft

Well Information:		Pumping Information:	
Well ID	MW-306	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.6440251 L
Well Total Depth	93.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.05 in
Depth to Water	56.50 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%	+/- 10		+/- 0.2	+/- 10
Last 5	08:27:51	2100.05	23.68	4.98	28.67	2.26	56.55	7.71	117.33
Last 5	08:32:51	2400.05	23.52	4.99	28.63	2.08	56.55	7.73	116.14
Last 5	08:37:51	2700.04	23.72	4.99	28.46	1.91	56.55	7.67	115.01
Last 5	08:42:51	3000.04	23.61	4.99	28.50	1.79	56.55	7.72	114.52
Last 5	08:47:51	3300.04	23.75	4.99	28.41	1.50	56.55	7.68	113.63
Variance 0			0.20	-0.00	-0.18			-0.06	-1.14
Variance 1			-0.11	0.00	0.04			0.05	-0.49
Variance 2			0.14	0.01	-0.09			-0.04	-0.89

Notes

Sample time @0850. Cloudy 80.

Grab Samples

Product Name: Low-Flow System

Date: 2018-10-17 11:27:24

Project Information:		Pump Information:	
Operator Name	Philip Evans	Pump Model/Type	BP
Company Name	RDH Environmental	Tubing Type	PE
Project Name	Crist plant CCR	Tubing Diameter	.17 in
Site Name	Crist Plant	Tubing Length	125 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	417744		
Turbidity Make/Model	HACH 2100Q	Pump placement from TOC	118.2 ft

Well Information:		Pumping Information:	
Well ID	MW-307	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7779279 L
Well Total Depth	123.2 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	12 in
Depth to Water	91.45 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%	+/- 10		+/- 0.2	+/- 10
Last 5	11:05:16	5102.04	24.34	5.58	24.20	0.84	92.45	4.97	86.99
Last 5	11:10:16	5402.04	24.30	5.55	25.86	0.92	92.45	5.21	92.39
Last 5	11:15:16	5702.04	24.47	5.55	25.60	0.85	92.45	5.26	96.84
Last 5	11:20:16	6002.04	24.63	5.55	25.45	0.80	92.45	5.26	100.32
Last 5	11:25:17	6303.04	24.64	5.54	25.28	0.76	92.45	5.30	103.19
Variance 0			0.17	-0.01	-0.27			0.05	4.45
Variance 1			0.16	0.00	-0.14			-0.00	3.48
Variance 2			0.01	-0.01	-0.17			0.04	2.86

Notes

Sample time @1130. PC 80.

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: 400-160790-1
TestAmerica Sample Delivery Group: Background
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
11/12/2018 3:29:04 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
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LINKS

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 6
Sample Summary 7
Client Sample Results 8
Definitions 14
Chronicle 15
QC Association 17
QC Sample Results 20
Chain of Custody 26
Receipt Checklists 27
Certification Summary 28

Job ID: 400-160790-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-160790-1

Metals
Method(s) 6020: The method blank for preparation batch 416486 and analytical batch 416741 contained Lead above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Detection Summary

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-160790-1

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
Calcium	0.86		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00058	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	32		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.5		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.93				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-107 — Lab Sample ID: 400-160790-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.42		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00045	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0015	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	12		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.1		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.98				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-108 — Lab Sample ID: 400-160790-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	1.4		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0013	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	6.0		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.9		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	2.8	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.81				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-306 — Lab Sample ID: 400-160790-4

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
Calcium	0.54		0.25	0.13	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	44		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.5		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.99				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-307 — Lab Sample ID: 400-160790-5

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-307 (Continued) — Lab Sample ID: 400-160790-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.016		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.66		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00043	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0012	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	44		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	3.7		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.54				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 400-160790-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	0.38		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00044	I	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	10		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.3		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 400-160790-1
SDG: Background

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
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN
7470A	Preparation, Mercury	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 Plant Crist

TestAmerica Job ID: 400-160790-1
SDG: Background

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160790-1	MW-100	Water	10/16/18 13:00	10/17/18 14:15
400-160790-2	MW-107	Water	10/16/18 11:25	10/17/18 14:15
400-160790-3	MW-108	Water	10/16/18 09:40	10/17/18 14:15
400-160790-4	MW-306	Water	10/17/18 08:50	10/17/18 14:15
400-160790-5	MW-307	Water	10/17/18 11:30	10/17/18 14:15
400-160790-6	DUP-01	Water	10/16/18 10:25	10/17/18 14:15

Client Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-100

Date Collected: 10/16/18 13:00
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-1

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		10/22/18 16:59	10/23/18 17:53	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 17:53	5
Barium	**0.017**		0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 17:53	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 17:53	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 17:53	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 17:53	5
Calcium	**0.86**		0.25	0.13	mg/L		10/22/18 16:59	10/23/18 17:53	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 17:53	5
Cobalt	**0.00058**	**I**	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 17:53	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 17:53	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 17:53	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 17:53	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 17:53	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 17:53	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		10/29/18 12:11	10/30/18 16:09	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**32**		5.0	3.4	mg/L			10/22/18 17:15	1
Chloride	**5.5**		2.0	1.4	mg/L			10/24/18 11:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/25/18 15:19	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/24/18 13:29	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.93**				SU			10/16/18 13:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-107

Date Collected: 10/16/18 11:25
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-2

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		10/22/18 16:59	10/23/18 18:16	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 18:16	5
Barium	**0.011**		0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 18:16	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:16	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 18:16	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:16	5
Calcium	**0.42**		0.25	0.13	mg/L		10/22/18 16:59	10/23/18 18:16	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 18:16	5
Cobalt	**0.00045**	**I**	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 18:16	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 18:16	5
Lithium	**0.0015**	**I**	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 18:16	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 18:16	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 18:16	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 18:16	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		10/29/18 12:11	10/30/18 16:11	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**12**		5.0	3.4	mg/L			10/22/18 17:15	1
Chloride	**5.1**		2.0	1.4	mg/L			10/24/18 11:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/25/18 15:21	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/24/18 13:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.98**				SU			10/16/18 11:25	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-108

Date Collected: 10/16/18 09:40
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-3

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		10/22/18 16:59	10/23/18 18:20	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 18:20	5
Barium	**0.011**		0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 18:20	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:20	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 18:20	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:20	5
Calcium	**1.4**		0.25	0.13	mg/L		10/22/18 16:59	10/23/18 18:20	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 18:20	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 18:20	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 18:20	5
Lithium	**0.0013**	**I**	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 18:20	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 18:20	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 18:20	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 18:20	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		10/29/18 12:11	10/30/18 16:13	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**6.0**		5.0	3.4	mg/L			10/22/18 17:15	1
Chloride	**5.9**		2.0	1.4	mg/L			10/24/18 11:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/25/18 15:24	1
Sulfate	**2.8**	**I**	5.0	1.4	mg/L			10/24/18 13:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.81**				SU			10/16/18 09:40	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-306

Date Collected: 10/17/18 08:50
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-4

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		10/22/18 16:59	10/23/18 18:24	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 18:24	5
Barium	**0.012**		0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 18:24	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:24	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 18:24	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:24	5
Calcium	**0.54**		0.25	0.13	mg/L		10/22/18 16:59	10/23/18 18:24	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 18:24	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 18:24	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 18:24	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 18:24	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 18:24	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 18:24	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 18:24	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		10/29/18 12:11	10/30/18 16:14	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**44**		5.0	3.4	mg/L			10/24/18 12:23	1
Chloride	**5.5**		2.0	1.4	mg/L			10/24/18 11:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 11:23	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/24/18 13:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.99**				SU			10/17/18 08:50	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-307

Date Collected: 10/17/18 11:30
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-5

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		10/22/18 16:59	10/23/18 18:30	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 18:30	5
Barium	**0.016**		0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 18:30	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:30	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 18:30	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:30	5
Calcium	**0.66**		0.25	0.13	mg/L		10/22/18 16:59	10/23/18 18:30	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 18:30	5
Cobalt	**0.00043**	**I**	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 18:30	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 18:30	5
Lithium	**0.0012**	**I**	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 18:30	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 18:30	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 18:30	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 18:30	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		10/29/18 12:11	10/30/18 16:16	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**44**		5.0	3.4	mg/L			10/24/18 12:23	1
Chloride	**3.7**		2.0	1.4	mg/L			10/24/18 11:17	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 11:26	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/24/18 13:40	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.54**				SU			10/17/18 11:30	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: DUP-01

Date Collected: 10/16/18 10:25
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-6

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		10/22/18 16:59	10/23/18 18:35	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 18:35	5
Barium	**0.011**		0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 18:35	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:35	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 18:35	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 18:35	5
Calcium	**0.38**		0.25	0.13	mg/L		10/22/18 16:59	10/23/18 18:35	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 18:35	5
Cobalt	**0.00044**	**I**	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 18:35	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 18:35	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 18:35	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 18:35	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 18:35	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 18:35	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		10/29/18 12:11	10/30/18 16:18	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**10**		5.0	3.4	mg/L			10/22/18 17:15	1
Chloride	**5.3**		2.0	1.4	mg/L			10/24/18 11:10	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/25/18 15:28	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/24/18 13:40	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
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 Plant Crist

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-160790-1

Date Collected: 10/16/18 13:00
Date Received: 10/17/18 14:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416486	10/22/18 16:59	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	416741	10/23/18 17:53	DRE	TAL PEN
Total/NA	Prep	7470A			417370	10/29/18 12:11	JAP	TAL PEN
Total/NA	Analysis	7470A		1	417676	10/30/18 16:09	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	416491	10/22/18 17:15	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	416758	10/24/18 11:10	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	416990	10/25/18 15:19	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	416792	10/24/18 13:29	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/16/18 13:00	AW	TAL PEN

Client Sample ID: MW-107 — Lab Sample ID: 400-160790-2

Date Collected: 10/16/18 11:25
Date Received: 10/17/18 14:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416486	10/22/18 16:59	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	416741	10/23/18 18:16	DRE	TAL PEN
Total/NA	Prep	7470A			417370	10/29/18 12:11	JAP	TAL PEN
Total/NA	Analysis	7470A		1	417676	10/30/18 16:11	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	416491	10/22/18 17:15	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	416758	10/24/18 11:10	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	416990	10/25/18 15:21	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	416792	10/24/18 13:40	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/16/18 11:25	AW	TAL PEN

Client Sample ID: MW-108 — Lab Sample ID: 400-160790-3

Date Collected: 10/16/18 09:40
Date Received: 10/17/18 14:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416486	10/22/18 16:59	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	416741	10/23/18 18:20	DRE	TAL PEN
Total/NA	Prep	7470A			417370	10/29/18 12:11	JAP	TAL PEN
Total/NA	Analysis	7470A		1	417676	10/30/18 16:13	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	416491	10/22/18 17:15	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	416758	10/24/18 11:10	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	416990	10/25/18 15:24	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	416792	10/24/18 13:40	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/16/18 09:40	AW	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Client Sample ID: MW-306
Date Collected: 10/17/18 08:50
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416486	10/22/18 16:59	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	416741	10/23/18 18:24	DRE	TAL PEN
Total/NA	Prep	7470A			417370	10/29/18 12:11	JAP	TAL PEN
Total/NA	Analysis	7470A		1	417676	10/30/18 16:14	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	416766	10/24/18 12:23	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	416758	10/24/18 11:10	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417309	10/28/18 11:23	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	416792	10/24/18 13:40	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/17/18 08:50	AW	TAL PEN

Client Sample ID: MW-307
Date Collected: 10/17/18 11:30
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416486	10/22/18 16:59	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	416741	10/23/18 18:30	DRE	TAL PEN
Total/NA	Prep	7470A			417370	10/29/18 12:11	JAP	TAL PEN
Total/NA	Analysis	7470A		1	417676	10/30/18 16:16	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	416766	10/24/18 12:23	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	416758	10/24/18 11:17	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417309	10/28/18 11:26	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	416792	10/24/18 13:40	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/17/18 11:30	AW	TAL PEN

Client Sample ID: DUP-01
Date Collected: 10/16/18 10:25
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			416486	10/22/18 16:59	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	416741	10/23/18 18:35	DRE	TAL PEN
Total/NA	Prep	7470A			417370	10/29/18 12:11	JAP	TAL PEN
Total/NA	Analysis	7470A		1	417676	10/30/18 16:18	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	416491	10/22/18 17:15	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	416758	10/24/18 11:10	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	416990	10/25/18 15:28	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	416792	10/24/18 13:40	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 Plant Crist

TestAmerica Job ID: 400-160790-1
SDG: Background

Metals

Prep Batch: 416486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total Recoverable	Water	3005A	
400-160790-2	MW-107	Total Recoverable	Water	3005A	
400-160790-3	MW-108	Total Recoverable	Water	3005A	
400-160790-4	MW-306	Total Recoverable	Water	3005A	
400-160790-5	MW-307	Total Recoverable	Water	3005A	
400-160790-6	DUP-01	Total Recoverable	Water	3005A	
MB 400-416486/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-416486/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-160175-B-20-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-160175-B-20-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 416741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total Recoverable	Water	6020	416486
400-160790-2	MW-107	Total Recoverable	Water	6020	416486
400-160790-3	MW-108	Total Recoverable	Water	6020	416486
400-160790-4	MW-306	Total Recoverable	Water	6020	416486
400-160790-5	MW-307	Total Recoverable	Water	6020	416486
400-160790-6	DUP-01	Total Recoverable	Water	6020	416486
MB 400-416486/1-A ^5	Method Blank	Total Recoverable	Water	6020	416486
LCS 400-416486/2-A	Lab Control Sample	Total Recoverable	Water	6020	416486
400-160175-B-20-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	416486
400-160175-B-20-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	416486

Prep Batch: 417370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	7470A	
400-160790-2	MW-107	Total/NA	Water	7470A	
400-160790-3	MW-108	Total/NA	Water	7470A	
400-160790-4	MW-306	Total/NA	Water	7470A	
400-160790-5	MW-307	Total/NA	Water	7470A	
400-160790-6	DUP-01	Total/NA	Water	7470A	
MB 400-417370/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-417370/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-160582-B-11-B MS	Matrix Spike	Total/NA	Water	7470A	
400-160582-B-11-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 417676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	7470A	417370
400-160790-2	MW-107	Total/NA	Water	7470A	417370
400-160790-3	MW-108	Total/NA	Water	7470A	417370
400-160790-4	MW-306	Total/NA	Water	7470A	417370
400-160790-5	MW-307	Total/NA	Water	7470A	417370
400-160790-6	DUP-01	Total/NA	Water	7470A	417370
MB 400-417370/14-A	Method Blank	Total/NA	Water	7470A	417370
LCS 400-417370/15-A	Lab Control Sample	Total/NA	Water	7470A	417370
400-160582-B-11-B MS	Matrix Spike	Total/NA	Water	7470A	417370
400-160582-B-11-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	417370

QC Association Summary

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

TestAmerica Job ID: 400-160790-1
SDG: Background

General Chemistry

Analysis Batch: 416491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	SM 2540C	
400-160790-2	MW-107	Total/NA	Water	SM 2540C	
400-160790-3	MW-108	Total/NA	Water	SM 2540C	
400-160790-6	DUP-01	Total/NA	Water	SM 2540C	
MB 400-416491/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-416491/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-160790-3 DU	MW-108	Total/NA	Water	SM 2540C	

Analysis Batch: 416758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	SM 4500 Cl- E	
400-160790-2	MW-107	Total/NA	Water	SM 4500 Cl- E	
400-160790-3	MW-108	Total/NA	Water	SM 4500 Cl- E	
400-160790-4	MW-306	Total/NA	Water	SM 4500 Cl- E	
400-160790-5	MW-307	Total/NA	Water	SM 4500 Cl- E	
400-160790-6	DUP-01	Total/NA	Water	SM 4500 Cl- E	
MB 400-416758/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-416758/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-416758/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-160790-1 MS	MW-100	Total/NA	Water	SM 4500 Cl- E	
400-160790-1 MSD	MW-100	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 416766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-4	MW-306	Total/NA	Water	SM 2540C	
400-160790-5	MW-307	Total/NA	Water	SM 2540C	
MB 400-416766/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-416766/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-160832-A-12 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 416792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	SM 4500 SO4 E	
400-160790-2	MW-107	Total/NA	Water	SM 4500 SO4 E	
400-160790-3	MW-108	Total/NA	Water	SM 4500 SO4 E	
400-160790-4	MW-306	Total/NA	Water	SM 4500 SO4 E	
400-160790-5	MW-307	Total/NA	Water	SM 4500 SO4 E	
400-160790-6	DUP-01	Total/NA	Water	SM 4500 SO4 E	
MB 400-416792/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-416792/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-416792/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-160790-1 MS	MW-100	Total/NA	Water	SM 4500 SO4 E	
400-160790-1 MSD	MW-100	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 416990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	SM 4500 F C	
400-160790-2	MW-107	Total/NA	Water	SM 4500 F C	
400-160790-3	MW-108	Total/NA	Water	SM 4500 F C	
400-160790-6	DUP-01	Total/NA	Water	SM 4500 F C	
MB 400-416990/3	Method Blank	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 416990 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-416990/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-160630-A-18 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-160630-A-18 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-160630-A-26 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 417309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-4	MW-306	Total/NA	Water	SM 4500 F C	
400-160790-5	MW-307	Total/NA	Water	SM 4500 F C	
MB 400-417309/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-417309/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-160768-I-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-160768-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-160814-A-4 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Field Service / Mobile Lab

Analysis Batch: 418909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	Field Sampling	
400-160790-2	MW-107	Total/NA	Water	Field Sampling	
400-160790-3	MW-108	Total/NA	Water	Field Sampling	
400-160790-4	MW-306	Total/NA	Water	Field Sampling	
400-160790-5	MW-307	Total/NA	Water	Field Sampling	

QC Sample Results

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-416486/1-A ^5
Matrix: Water
Analysis Batch: 416741

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 416486

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	U	0.0025	0.0010	mg/L		10/22/18 16:59	10/23/18 16:19	5
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/22/18 16:59	10/23/18 16:19	5
Barium	0.00049	U	0.0025	0.00049	mg/L		10/22/18 16:59	10/23/18 16:19	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 16:19	5
Boron	0.021	U	0.050	0.021	mg/L		10/22/18 16:59	10/23/18 16:19	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/22/18 16:59	10/23/18 16:19	5
Calcium	0.13	U	0.25	0.13	mg/L		10/22/18 16:59	10/23/18 16:19	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/22/18 16:59	10/23/18 16:19	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/22/18 16:59	10/23/18 16:19	5
Lead	0.000590	I	0.0013	0.00035	mg/L		10/22/18 16:59	10/23/18 16:19	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/22/18 16:59	10/23/18 16:19	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/22/18 16:59	10/23/18 16:19	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/22/18 16:59	10/23/18 16:19	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/22/18 16:59	10/23/18 16:19	5

Lab Sample ID: LCS 400-416486/2-A
Matrix: Water
Analysis Batch: 416741

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 416486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0491		mg/L		98	80 - 120
Arsenic	0.0500	0.0502		mg/L		100	80 - 120
Barium	0.0500	0.0483		mg/L		97	80 - 120
Beryllium	0.0500	0.0490		mg/L		98	80 - 120
Boron	0.100	0.0952		mg/L		95	80 - 120
Cadmium	0.0500	0.0537		mg/L		107	80 - 120
Calcium	5.00	4.96		mg/L		99	80 - 120
Chromium	0.0500	0.0507		mg/L		101	80 - 120
Cobalt	0.0500	0.0510		mg/L		102	80 - 120
Lead	0.0500	0.0526		mg/L		105	80 - 120
Lithium	0.0500	0.0529		mg/L		106	80 - 120
Molybdenum	0.0500	0.0489		mg/L		98	80 - 120
Selenium	0.0500	0.0484		mg/L		97	80 - 120
Thallium	0.0100	0.0104		mg/L		104	80 - 120

Lab Sample ID: 400-160175-B-20-B MS ^5
Matrix: Water
Analysis Batch: 416741

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 416486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0010	U	0.0500	0.0517		mg/L		103	75 - 125
Arsenic	0.00046	U	0.0500	0.0519		mg/L		104	75 - 125
Barium	0.022		0.0500	0.0720		mg/L		100	75 - 125
Beryllium	0.00034	U	0.0500	0.0510		mg/L		102	75 - 125
Boron	0.021	U	0.100	0.103		mg/L		103	75 - 125
Cadmium	0.00034	U	0.0500	0.0548		mg/L		110	75 - 125
Calcium	31		5.00	37.3		mg/L		118	75 - 125
Chromium	0.0011	U	0.0500	0.0574		mg/L		115	75 - 125

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

Lab Sample ID: 400-160175-B-20-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 416741 — **Prep Batch: 416486**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.0031		0.0500	0.0539		mg/L		102	75 - 125
Lead	0.00035	U	0.0500	0.0506		mg/L		101	75 - 125
Lithium	0.0044	I	0.0500	0.0590		mg/L		109	75 - 125
Molybdenum	0.0020	U	0.0500	0.0504		mg/L		101	75 - 125
Selenium	0.00080	I	0.0500	0.0510		mg/L		100	75 - 125
Thallium	0.000085	U	0.0100	0.0107		mg/L		107	75 - 125

Lab Sample ID: 400-160175-B-20-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 416741 — **Prep Batch: 416486**

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	0.0512		mg/L		102	75 - 125	1	20
Arsenic	0.00046	U	0.0500	0.0517		mg/L		103	75 - 125	0	20
Barium	0.022		0.0500	0.0721		mg/L		101	75 - 125	0	20
Beryllium	0.00034	U	0.0500	0.0505		mg/L		101	75 - 125	1	20
Boron	0.021	U	0.100	0.0981		mg/L		98	75 - 125	5	20
Cadmium	0.00034	U	0.0500	0.0543		mg/L		109	75 - 125	1	20
Calcium	31		5.00	36.6		mg/L		104	75 - 125	2	20
Chromium	0.0011	U	0.0500	0.0568		mg/L		114	75 - 125	1	20
Cobalt	0.0031		0.0500	0.0544		mg/L		103	75 - 125	1	20
Lead	0.00035	U	0.0500	0.0503		mg/L		101	75 - 125	1	20
Lithium	0.0044	I	0.0500	0.0572		mg/L		106	75 - 125	3	20
Molybdenum	0.0020	U	0.0500	0.0508		mg/L		102	75 - 125	1	20
Selenium	0.00080	I	0.0500	0.0497		mg/L		98	75 - 125	3	20
Thallium	0.000085	U	0.0100	0.0107		mg/L		107	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-417370/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417676 — **Prep Batch: 417370**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/29/18 11:05	10/30/18 15:07	1

Lab Sample ID: LCS 400-417370/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417676 — **Prep Batch: 417370**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.000979		mg/L		97	80 - 120

Lab Sample ID: 400-160582-B-11-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417676 — **Prep Batch: 417370**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00230		mg/L		114	80 - 120

Lab Sample ID: 400-160582-B-11-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417676 — **Prep Batch: 417370**

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	0.00237		mg/L		118	80 - 120	3	20

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

Lab Sample ID: MB 400-416491/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416491

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			10/22/18 17:15	1

Lab Sample ID: LCS 400-416491/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416491

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: 400-160790-3 DU — **Client Sample ID: MW-108**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416491

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

Lab Sample ID: MB 400-416766/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416766

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			10/24/18 12:23	1

Lab Sample ID: LCS 400-416766/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416766

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: 400-160832-A-12 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416766

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	140		148		mg/L		4	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-416758/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416758

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			10/24/18 11:07	1

Lab Sample ID: LCS 400-416758/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	32.5		mg/L		108	90 - 110

Lab Sample ID: MRL 400-416758/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416758

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.87	I	mg/L		94	50 - 150

Lab Sample ID: 400-160790-1 MS — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416758

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.5		10.0	16.6		mg/L		111	73 - 120

Lab Sample ID: 400-160790-1 MSD — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416758

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.5		10.0	16.3		mg/L		108	73 - 120	2	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-416990/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416990

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			10/25/18 13:53	1

Lab Sample ID: LCS 400-416990/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416990

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.26		mg/L		107	90 - 110

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 400-160630-A-18 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416990

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.85		1.00	1.93		mg/L		108	75 - 125		

Lab Sample ID: 400-160630-A-18 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416990

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.85		1.00	1.93		mg/L		108	75 - 125	0	4

Lab Sample ID: 400-160630-A-26 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416990

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.42			0.420		mg/L				0	4

Lab Sample ID: MB 400-417309/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 11:00	1

Lab Sample ID: LCS 400-417309/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.26		mg/L		107	90 - 110		

Lab Sample ID: 400-160768-I-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.52		1.00	1.63		mg/L		111	75 - 125		

Lab Sample ID: 400-160768-I-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.52		1.00	1.63		mg/L		111	75 - 125	0	4

Lab Sample ID: 400-160814-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

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 400-416792/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416792

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			10/24/18 13:29	1

Lab Sample ID: LCS 400-416792/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416792

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	13.8		mg/L		92	90 - 110		

Lab Sample ID: MRL 400-416792/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416792

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.38	I	mg/L		88	50 - 150		

Lab Sample ID: 400-160790-1 MS — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416792

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	1.4	U	10.0	9.53		mg/L		95	77 - 128		

Lab Sample ID: 400-160790-1 MSD — **Client Sample ID: MW-100**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 416792

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	9.52		mg/L		95	77 - 128	0	5

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

Chain of Custody Record

TestAmerica
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Client Information	Sampler: Philip Evans	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page:
Company: Gulf Power Company				Job #: 1600790
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 Plant Crist	Project #: 40006609			
Site: Background	SSOW#:			

Analysis Requested

400-160790 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 - Sb,As,Ba,B,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters											Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N											X	
MW-100	10/16/18	1300	G	Water			X	X	X	X												
~~MW-101~~ PE				Water																		
MW-107	10/16/18	1125		Water			X	X	X	X												
MW-108	10/16/18	0940		Water			X	X	X	X												
MW-306	10/17/18	0850		Water			X	X	X	X												
MW-307	10/17/18	1130	↓	Water			X	X	X	X	X											
Dup-01	10/16/18	1025	G	Water			X	X	X	X		PE										

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]	10/17/18 1415	RDH			
			[signature]	10-17-18 1415	TA-PEN

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.4°C IR8

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-160790-1
SDG Number: Background

Login Number: 160790
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.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4°C, IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-160790-1
SDG: Background

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

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

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-160790-2
TestAmerica Sample Delivery Group: Background
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
11/15/2018 5:39:19 PM

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

LINKS

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 12
Chronicle 13
QC Association 15
QC Sample Results 16
Chain of Custody 18
Receipt Checklists 19
Certification Summary 21

Job ID: 400-160790-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-160790-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-396383: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-100 (400-160790-1), MW-107 (400-160790-2), MW-108 (400-160790-3), MW-306 (400-160790-4), MW-307 (400-160790-5) and DUP-01 (400-160790-6). 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 160-396361: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MW-100 (400-160790-1), MW-107 (400-160790-2), MW-108 (400-160790-3), MW-306 (400-160790-4), MW-307 (400-160790-5) and DUP-01 (400-160790-6). 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 Plant Crist

TestAmerica Job ID: 400-160790-2
SDG: Background

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 Plant Crist

TestAmerica Job ID: 400-160790-2
SDG: Background

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160790-1	MW-100	Water	10/16/18 13:00	10/17/18 14:15
400-160790-2	MW-107	Water	10/16/18 11:25	10/17/18 14:15
400-160790-3	MW-108	Water	10/16/18 09:40	10/17/18 14:15
400-160790-4	MW-306	Water	10/17/18 08:50	10/17/18 14:15
400-160790-5	MW-307	Water	10/17/18 11:30	10/17/18 14:15
400-160790-6	DUP-01	Water	10/16/18 10:25	10/17/18 14:15

Client Sample Results

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-100

Date Collected: 10/16/18 13:00
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-1

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	0.564		0.126	0.135	1.00	0.0923	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.58		0.292	0.326	1.00	0.297	pCi/L	10/22/18 11:44	10/26/18 10:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*
Y Carrier	*80.0*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*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	2.14		0.318	0.353	5.00	0.297	pCi/L		11/15/18 17:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-107

Date Collected: 10/16/18 11:25
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-2

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.308		0.0997	0.103	1.00	0.0842	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.767		0.254	0.263	1.00	0.335	pCi/L	10/22/18 11:44	10/26/18 10:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*
Y Carrier	*80.7*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.07		0.273	0.282	5.00	0.335	pCi/L		11/15/18 17:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-108

Date Collected: 10/16/18 09:40
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-3

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	0.510		0.123	0.131	1.00	0.0895	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.69		0.340	0.373	1.00	0.399	pCi/L	10/22/18 11:44	10/26/18 10:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*
Y Carrier	*79.3*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*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	2.20		0.362	0.395	5.00	0.399	pCi/L		11/15/18 17:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-306

Date Collected: 10/17/18 08:50
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-4

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	0.394		0.113	0.119	1.00	0.0989	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.800		0.263	0.273	1.00	0.352	pCi/L	10/22/18 11:44	10/26/18 10:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*
Y Carrier	*79.3*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*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		0.286	0.298	5.00	0.352	pCi/L		11/15/18 17:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-307

Date Collected: 10/17/18 11:30
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.331		0.0989	0.103	1.00	0.0734	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.549		0.237	0.242	1.00	0.336	pCi/L	10/22/18 11:44	10/26/18 10:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*
Y Carrier	*81.9*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*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	0.880		0.257	0.263	5.00	0.336	pCi/L		11/15/18 17:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: DUP-01

Date Collected: 10/16/18 10:25
Date Received: 10/17/18 14:15

Lab Sample ID: 400-160790-6

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.432		0.109	0.116	1.00	0.0738	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.10		0.290	0.307	1.00	0.363	pCi/L	10/22/18 11:44	10/26/18 10:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*1*
Y Carrier	*77.4*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:21*	*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	1.53		0.310	0.328	5.00	0.363	pCi/L		11/15/18 17:00	1

Definitions/Glossary

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

TestAmerica Job ID: 400-160790-2
SDG: Background

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 Plant Crist

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-100 — Lab Sample ID: 400-160790-1

Date Collected: 10/16/18 13:00 — **Matrix: Water**
Date Received: 10/17/18 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			396361	10/22/18 09:49	JLC	TAL SL
Total/NA	Analysis	9315		1	400714	11/13/18 05:51	KLS	TAL SL
Total/NA	Prep	PrecSep_0			396383	10/22/18 11:44	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 10:21	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401115	11/15/18 17:00	RTM	TAL SL

Client Sample ID: MW-107 — Lab Sample ID: 400-160790-2

Date Collected: 10/16/18 11:25 — **Matrix: Water**
Date Received: 10/17/18 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			396361	10/22/18 09:49	JLC	TAL SL
Total/NA	Analysis	9315		1	400714	11/13/18 05:51	KLS	TAL SL
Total/NA	Prep	PrecSep_0			396383	10/22/18 11:44	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 10:21	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401115	11/15/18 17:00	RTM	TAL SL

Client Sample ID: MW-108 — Lab Sample ID: 400-160790-3

Date Collected: 10/16/18 09:40 — **Matrix: Water**
Date Received: 10/17/18 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			396361	10/22/18 09:49	JLC	TAL SL
Total/NA	Analysis	9315		1	400714	11/13/18 05:51	KLS	TAL SL
Total/NA	Prep	PrecSep_0			396383	10/22/18 11:44	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 10:21	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401115	11/15/18 17:00	RTM	TAL SL

Client Sample ID: MW-306 — Lab Sample ID: 400-160790-4

Date Collected: 10/17/18 08:50 — **Matrix: Water**
Date Received: 10/17/18 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			396361	10/22/18 09:49	JLC	TAL SL
Total/NA	Analysis	9315		1	400714	11/13/18 05:51	KLS	TAL SL
Total/NA	Prep	PrecSep_0			396383	10/22/18 11:44	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 10:21	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401115	11/15/18 17:00	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Client Sample ID: MW-307

Lab Sample ID: 400-160790-5

Date Collected: 10/17/18 11:30
Matrix: Water
Date Received: 10/17/18 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			396361	10/22/18 09:49	JLC	TAL SL
Total/NA	Analysis	9315		1	400714	11/13/18 05:51	KLS	TAL SL
Total/NA	Prep	PrecSep_0			396383	10/22/18 11:44	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 10:21	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401115	11/15/18 17:00	RTM	TAL SL

Client Sample ID: DUP-01

Lab Sample ID: 400-160790-6

Date Collected: 10/16/18 10:25
Matrix: Water
Date Received: 10/17/18 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			396361	10/22/18 09:49	JLC	TAL SL
Total/NA	Analysis	9315		1	400714	11/13/18 05:51	KLS	TAL SL
Total/NA	Prep	PrecSep_0			396383	10/22/18 11:44	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 10:21	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401115	11/15/18 17:00	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 Plant Crist

TestAmerica Job ID: 400-160790-2
SDG: Background

Rad

Prep Batch: 396361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	PrecSep-21	
400-160790-2	MW-107	Total/NA	Water	PrecSep-21	
400-160790-3	MW-108	Total/NA	Water	PrecSep-21	
400-160790-4	MW-306	Total/NA	Water	PrecSep-21	
400-160790-5	MW-307	Total/NA	Water	PrecSep-21	
400-160790-6	DUP-01	Total/NA	Water	PrecSep-21	
MB 160-396361/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-396361/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-396361/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 396383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160790-1	MW-100	Total/NA	Water	PrecSep_0	
400-160790-2	MW-107	Total/NA	Water	PrecSep_0	
400-160790-3	MW-108	Total/NA	Water	PrecSep_0	
400-160790-4	MW-306	Total/NA	Water	PrecSep_0	
400-160790-5	MW-307	Total/NA	Water	PrecSep_0	
400-160790-6	DUP-01	Total/NA	Water	PrecSep_0	
MB 160-396383/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-396383/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-396383/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-396361/22-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400714 — **Prep Batch: 396361**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1303		0.0627	0.0637	1.00	0.0633	pCi/L	10/22/18 09:49	11/13/18 05:51	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*10/22/18 09:49*	*11/13/18 05:51*	*1*

Lab Sample ID: LCS 160-396361/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400704 — **Prep Batch: 396361**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	9.693		0.995	1.00	0.0676	pCi/L	85	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.5*		*40 - 110*

Lab Sample ID: LCSD 160-396361/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400704 — **Prep Batch: 396361**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.4	10.23		1.03	1.00	0.0769	pCi/L	90	68 - 137	0.27	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-396383/22-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 397458 — **Prep Batch: 396383**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1434	U	0.201	0.201	1.00	0.335	pCi/L	10/22/18 11:44	10/26/18 10:22	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:22*	*1*
Y Carrier	*81.9*		*40 - 110*	*10/22/18 11:44*	*10/26/18 10:22*	*1*

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

Lab Sample ID: LCS 160-396383/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 397457 — **Prep Batch: 396383**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.28	10.28		1.17	1.00	0.363	pCi/L	111	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*96.5*		*40 - 110*
Y Carrier	*78.5*		*40 - 110*

Lab Sample ID: LCSD 160-396383/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 397457 — **Prep Batch: 396383**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.28	9.376		1.08	1.00	0.332	pCi/L	101	56 - 140	0.40	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*79.3*		*40 - 110*

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

Lab Sample ID: 400-160630-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401115

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Combined Radium 226 + 228	0.612			0.3910	U	0.298	5.00	0.450	pCi/L			0.36	

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Philip Evans	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850-336-0192	E-Mail: cheyenne.whitmire@testamericainc.com		Page:
Company: Gulf Power Company				Job #: 1600790
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 Plant Crist	Project #: 40006609			
Site: Background	SSOW#:			

Analysis Requested

400-160790 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 - Sb,As,Ba,Be,Ca,Cd,Cr,Co,Pb,Li,Mo,Se,Tl, 7470A - Mercury	FieldSampling - Field Sampling Parameters									Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	N	D	N									X	
MW-100	10/16/18	1300	G	Water			X	X	X	X										
~~MW-101~~ PE				Water																
MW-107	10/16/18	1125		Water			X	X	X	X										
MW-108	10/16/18	0940		Water			X	X	X	X										
MW-306	10/17/18	0850		Water			X	X	X	X										
MW-307	10/17/18	1130	↓	Water			X	X	X	X	X									
Dup-01	10/16/18	1025	G	Water			X	X	X	X		PE								

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
	10/17/18 1415	RDH			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10-17-18 1415	Company TA-PEN

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.4°C IR 8

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-160790-2
SDG Number: Background

Login Number: 160790
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.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4°C, IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-160790-2
SDG Number: Background

Login Number: 160790
List Number: 2
Creator: Hellm, Michael

List Source: TestAmerica St. Louis
List Creation: 10/19/18 03:20 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.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

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

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-160790-2
SDG: Background

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-12	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
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Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-160850-1
TestAmerica Sample Delivery Group: Landfill 1
Client Project/Site: CCR Plant Crist
Revision: 1

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

Attn: Kristi Mitchell

Authorized for release by:
12/5/2018 1:35:54 PM

Cheyenne Whitmire, Project Manager II
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LINKS

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

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

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 31
Chain of Custody 40
Receipt Checklists 41
Certification Summary 42

Job ID: 400-160850-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-160850-1

Metals
Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 417030 and analytical batch 417354 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-104 (400-160850-3), MW-110 (400-160850-7) and DUP-03 (400-160850-9). Elevated reporting limits (RLs) are provided.

Method(s) 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 417773 and analytical batch 418016 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.

General Chemistry
Method(s) SM 4500 Cl- E: The following samples were diluted due to the nature of the sample matrix: MW-104 (400-160850-3), MW-110 (400-160850-7) and DUP-03 (400-160850-9). 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. (460-167172-E-1 MS) and (460-167172-E-1 MSD)

Method(s) SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-104 (400-160850-3), MW-110 (400-160850-7), DUP-03 (400-160850-9), (460-167172-E-1), (460-167172-E-1 MS) and (460-167172-E-1 MSD). Elevated reporting limits (RLs) are provided.

Method(s) SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 417368 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Detection Summary

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-102 — Lab Sample ID: 400-160850-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0085		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.34		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	0.37		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0012	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Mercury	0.000094	I	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	54		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	6.7		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	3.4	I	5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	5.15				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-103 — Lab Sample ID: 400-160850-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.052		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.25		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	3.1		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0017	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0016		0.0013	0.00071	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	64		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	12		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	31		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.93				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-104 — Lab Sample ID: 400-160850-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0019		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.021		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.00084	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cadmium	0.00044	I	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	52		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0016	I	0.0025	0.0011	mg/L	5		6020	Total Recoverable
Cobalt	0.016		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lead	0.0020		0.0013	0.00035	mg/L	5		6020	Total Recoverable
Lithium	0.022		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0049		0.0013	0.00071	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-104 (Continued) — Lab Sample ID: 400-160850-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.00021	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	9.6		1.0	0.42	mg/L	100		6020	Total Recoverable
Mercury	0.00087		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	860		10	6.8	mg/L	1		SM 2540C	Total/NA
Chloride	100		10	7.0	mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.26		0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	460		150	42	mg/L	30		SM 4500 SO4 E	Total/NA
Field pH	4.12				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-105 — Lab Sample ID: 400-160850-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0044		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.035		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.43		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	63		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0029		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0032	I	0.015	0.0020	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	250		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	32		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
Sulfate	6.6		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	6.19				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-106 — Lab Sample ID: 400-160850-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0096		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.067		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	0.47		0.25	0.13	mg/L	5		6020	Total Recoverable
Lead	0.00039	I	0.0013	0.00035	mg/L	5		6020	Total Recoverable
Lithium	0.0012	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	68		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.0		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	5.07				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-109 — Lab Sample ID: 400-160850-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.019		0.0025	0.00049	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-109 (Continued) — Lab Sample ID: 400-160850-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.15		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	2.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0036		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0062		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	34		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	7.5		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Sulfate	8.1		5.0	1.4	mg/L	1		SM 4500 SO4 E	Total/NA
Field pH	4.76				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-110 — Lab Sample ID: 400-160850-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.035		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	38		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.025		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0033		0.0013	0.00071	mg/L	5		6020	Total Recoverable
Thallium	0.00031	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	4.3		0.50	0.21	mg/L	50		6020	Total Recoverable
Mercury	0.0034		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	750		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	160		20	14	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	280		100	28	mg/L	20		SM 4500 SO4 E	Total/NA
Field pH	4.73				SU	1		Field Sampling	Total/NA

Client Sample ID: MW-101 — Lab Sample ID: 400-160850-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0089		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.081		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	0.41		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0013	I	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	28		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	5.2		2.0	1.4	mg/L	1		SM 4500 Cl- E	Total/NA
Field pH	4.97				SU	1		Field Sampling	Total/NA

Client Sample ID: DUP-03 — Lab Sample ID: 400-160850-9

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: DUP-03 (Continued) — Lab Sample ID: 400-160850-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.036		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	37		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.025		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.0034		0.0013	0.00071	mg/L	5		6020	Total Recoverable
Thallium	0.00031	I	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	4.4		0.50	0.21	mg/L	50		6020	Total Recoverable
Mercury	0.0034		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	690		5.0	3.4	mg/L	1		SM 2540C	Total/NA
Chloride	160		20	14	mg/L	10		SM 4500 Cl- E	Total/NA
Fluoride	0.040	I	0.10	0.032	mg/L	1		SM 4500 F C	Total/NA
Sulfate	280		100	28	mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: FB-02 — Lab Sample ID: 400-160850-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.080		0.050	0.021	mg/L	5		6020	Total Recoverable

Client Sample ID: EB-02 — Lab Sample ID: 400-160850-11

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

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
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN
7470A	Preparation, Mercury	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 Plant Crist

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160850-1	MW-102	Water	10/19/18 13:25	10/19/18 14:10
400-160850-2	MW-103	Water	10/18/18 14:20	10/19/18 14:10
400-160850-3	MW-104	Water	10/18/18 11:06	10/19/18 14:10
400-160850-4	MW-105	Water	10/18/18 09:30	10/19/18 14:10
400-160850-5	MW-106	Water	10/18/18 08:15	10/19/18 14:10
400-160850-6	MW-109	Water	10/18/18 11:00	10/19/18 14:10
400-160850-7	MW-110	Water	10/18/18 09:55	10/19/18 14:10
400-160850-8	MW-101	Water	10/18/18 07:06	10/19/18 14:10
400-160850-9	DUP-03	Water	10/18/18 08:55	10/19/18 14:10
400-160850-10	FB-02	Water	10/18/18 14:30	10/19/18 14:10
400-160850-11	EB-02	Water	10/18/18 11:05	10/19/18 14:10

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-102

Date Collected: 10/19/18 13:25
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-1

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		10/25/18 17:53	10/26/18 13:39	5
Barium	**0.0085**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:39	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:39	5
Boron	**0.34**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 13:39	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:39	5
Calcium	**0.37**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:39	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:39	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:39	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:39	5
Lithium	**0.0012**	**I**	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:39	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:39	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:39	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:39	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000094**	**I**	0.00020	0.000070	mg/L		10/31/18 10:01	11/01/18 14:22	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**54**		5.0	3.4	mg/L			10/25/18 17:12	1
Chloride	**6.7**		2.0	1.4	mg/L			10/30/18 13:58	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 12:02	1
Sulfate	**3.4**	**I**	5.0	1.4	mg/L			10/31/18 08:36	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.15**				SU			10/19/18 13:25	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-103

Date Collected: 10/18/18 14:20
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-2

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		10/25/18 17:53	10/26/18 13:42	5
Barium	**0.052**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:42	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:42	5
Boron	**0.25**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 13:42	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:42	5
Calcium	**3.1**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:42	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:42	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:42	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:42	5
Lithium	**0.0017**	**I**	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:42	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:42	5
Selenium	**0.0016**		0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:42	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:42	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		10/31/18 10:01	11/01/18 14:24	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**64**		5.0	3.4	mg/L			10/25/18 17:34	1
Chloride	**12**		2.0	1.4	mg/L			10/30/18 09:43	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 12:06	1
Sulfate	**31**		5.0	1.4	mg/L			10/29/18 09:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.93**				SU			10/18/18 14:20	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-104

Date Collected: 10/18/18 11:06
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-3

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019		0.0013	0.00046	mg/L		10/25/18 17:53	10/26/18 13:46	5
Barium	0.021		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:46	5
Beryllium	0.00084	I	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:46	5
Cadmium	0.00044	I	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:46	5
Calcium	52		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:46	5
Chromium	0.0016	I	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:46	5
Cobalt	0.016		0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:46	5
Lead	0.0020		0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:46	5
Lithium	0.022		0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:46	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:46	5
Selenium	0.0049		0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:46	5
Thallium	0.00021	I	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:46	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.6		1.0	0.42	mg/L		10/25/18 17:53	10/26/18 14:39	100

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00087		0.00020	0.000070	mg/L		10/31/18 10:01	11/01/18 14:26	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	860		10	6.8	mg/L			10/25/18 17:34	1
Chloride	100		10	7.0	mg/L			10/29/18 17:24	5
Fluoride	0.26		0.10	0.032	mg/L			10/28/18 12:10	1
Sulfate	460		150	42	mg/L			10/29/18 10:12	30

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	4.12				SU			10/18/18 11:06	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-105

Date Collected: 10/18/18 09:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-4

Matrix: Water

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0044**		0.0013	0.00046	mg/L		10/25/18 17:53	10/26/18 13:50	5
Barium	**0.035**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:50	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:50	5
Boron	**0.43**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 13:50	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:50	5
Calcium	**63**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:50	5
Chromium	**0.0029**		0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:50	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:50	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:50	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:50	5
Molybdenum	**0.0032**	**I**	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:50	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:50	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:50	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		10/31/18 10:01	11/01/18 14:28	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**250**		5.0	3.4	mg/L			10/25/18 17:34	1
Chloride	**32**		2.0	1.4	mg/L			10/30/18 09:43	1
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			10/28/18 12:12	1
Sulfate	**6.6**		5.0	1.4	mg/L			10/29/18 09:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**6.19**				SU			10/18/18 09:30	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-106

Date Collected: 10/18/18 08:15
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-5

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		10/25/18 17:53	10/26/18 13:53	5
Barium	**0.0096**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:53	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:53	5
Boron	**0.067**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 13:53	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:53	5
Calcium	**0.47**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:53	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:53	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:53	5
Lead	**0.00039**	**I**	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:53	5
Lithium	**0.0012**	**I**	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:53	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:53	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:53	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:53	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		10/31/18 10:01	11/01/18 14:29	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**68**		5.0	3.4	mg/L			10/25/18 17:34	1
Chloride	**5.0**		2.0	1.4	mg/L			10/30/18 09:43	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 08:36	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/29/18 09:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**5.07**				SU			10/18/18 08:15	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-109

Date Collected: 10/18/18 11:00
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-6

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		10/25/18 17:53	10/26/18 13:57	5
Barium	**0.019**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:57	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:57	5
Boron	**0.15**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 13:57	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:57	5
Calcium	**2.8**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:57	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:57	5
Cobalt	**0.0036**		0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:57	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:57	5
Lithium	**0.0062**		0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:57	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:57	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:57	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:57	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		10/31/18 10:01	11/01/18 14:31	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**34**		5.0	3.4	mg/L			10/25/18 17:34	1
Chloride	**7.5**		2.0	1.4	mg/L			10/30/18 09:43	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 08:44	1
Sulfate	**8.1**		5.0	1.4	mg/L			10/29/18 09:44	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.76**				SU			10/18/18 11:00	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-110

Date Collected: 10/18/18 09:55
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-7

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		10/25/18 17:53	10/26/18 14:00	5
Barium	**0.035**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 14:00	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:00	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:00	5
Calcium	**38**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 14:00	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 14:00	5
Cobalt	**0.025**		0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 14:00	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 14:00	5
Lithium	**0.011**		0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 14:00	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 14:00	5
Selenium	**0.0033**		0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 14:00	5
Thallium	**0.00031**	**I**	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 14:00	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.3**		0.50	0.21	mg/L		10/25/18 17:53	10/26/18 14:43	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0034**		0.00020	0.000070	mg/L		10/31/18 10:01	11/01/18 14:33	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**750**		5.0	3.4	mg/L			10/25/18 17:34	1
Chloride	**160**		20	14	mg/L			10/29/18 17:25	10
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			10/29/18 08:48	1
Sulfate	**280**		100	28	mg/L			10/29/18 10:12	20

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.73**				SU			10/18/18 09:55	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-101

Date Collected: 10/18/18 07:06
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-8

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		10/25/18 17:53	10/26/18 14:04	5
Barium	**0.0089**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 14:04	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:04	5
Boron	**0.081**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 14:04	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:04	5
Calcium	**0.41**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 14:04	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 14:04	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 14:04	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 14:04	5
Lithium	**0.0013**	**I**	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 14:04	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 14:04	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 14:04	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 14:04	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		10/31/18 10:01	11/01/18 14:35	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**28**		5.0	3.4	mg/L			10/25/18 17:12	1
Chloride	**5.2**		2.0	1.4	mg/L			10/29/18 16:57	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 08:51	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/29/18 09:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.97**				SU			10/18/18 07:06	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: DUP-03

Date Collected: 10/18/18 08:55
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-9

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		10/25/18 17:53	10/26/18 14:07	5
Barium	**0.036**		0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 14:07	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:07	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:07	5
Calcium	**37**		0.25	0.13	mg/L		10/25/18 17:53	10/26/18 14:07	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 14:07	5
Cobalt	**0.025**		0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 14:07	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 14:07	5
Lithium	**0.011**		0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 14:07	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 14:07	5
Selenium	**0.0034**		0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 14:07	5
Thallium	**0.00031**	**I**	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 14:07	5

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

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.4**		0.50	0.21	mg/L		10/25/18 17:53	10/26/18 14:47	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0034**		0.00020	0.000070	mg/L		10/31/18 10:01	11/01/18 14:37	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**690**		5.0	3.4	mg/L			10/25/18 17:34	1
Chloride	**160**		20	14	mg/L			10/29/18 17:25	10
Fluoride	**0.040**	**I**	0.10	0.032	mg/L			10/29/18 08:54	1
Sulfate	**280**		100	28	mg/L			10/29/18 10:16	20

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: FB-02

Date Collected: 10/18/18 14:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-10

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		10/25/18 17:53	10/26/18 14:11	5
Barium	0.00049	U	0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 14:11	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:11	5
Boron	**0.080**		0.050	0.021	mg/L		10/25/18 17:53	10/26/18 14:11	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:11	5
Calcium	0.13	U	0.25	0.13	mg/L		10/25/18 17:53	10/26/18 14:11	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 14:11	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 14:11	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 14:11	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 14:11	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 14:11	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 14:11	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 14:11	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		10/31/18 10:01	11/01/18 14:49	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			10/25/18 17:34	1
Chloride	1.4	U	2.0	1.4	mg/L			10/30/18 09:44	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 08:58	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/29/18 09:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: EB-02

Date Collected: 10/18/18 11:05
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-11

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		10/25/18 17:53	10/26/18 14:32	5
Barium	0.00049	U	0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 14:32	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:32	5
Boron	0.021	U	0.050	0.021	mg/L		10/25/18 17:53	10/26/18 14:32	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 14:32	5
Calcium	0.13	U	0.25	0.13	mg/L		10/25/18 17:53	10/26/18 14:32	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 14:32	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 14:32	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 14:32	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 14:32	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 14:32	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 14:32	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 14:32	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		10/31/18 10:33	11/01/18 16:04	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			10/25/18 17:12	1
Chloride	1.4	U	2.0	1.4	mg/L			10/30/18 09:44	1
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 09:02	1
Sulfate	1.4	U	5.0	1.4	mg/L			10/29/18 09:49	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.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.

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.
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 Plant Crist

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-102
Date Collected: 10/19/18 13:25
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 13:39	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:22	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417012	10/25/18 17:12	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417638	10/30/18 13:58	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417309	10/28/18 12:02	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417786	10/31/18 08:36	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/19/18 13:25	AW	TAL PEN

Client Sample ID: MW-103
Date Collected: 10/18/18 14:20
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 13:42	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:24	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/30/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417309	10/28/18 12:06	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:44	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 14:20	AW	TAL PEN

Client Sample ID: MW-104
Date Collected: 10/18/18 11:06
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 13:46	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	100	417354	10/26/18 14:39	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:26	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		5	417589	10/29/18 17:24	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417309	10/28/18 12:10	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		30	417368	10/29/18 10:12	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 11:06	AW	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-105
Date Collected: 10/18/18 09:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 13:50	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:28	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/30/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417309	10/28/18 12:12	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:44	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 09:30	AW	TAL PEN

Client Sample ID: MW-106
Date Collected: 10/18/18 08:15
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 13:53	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:29	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/30/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 08:36	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:44	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 08:15	AW	TAL PEN

Client Sample ID: MW-109
Date Collected: 10/18/18 11:00
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 13:57	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:31	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/30/18 09:43	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 08:44	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:44	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 11:00	AW	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-110 — Lab Sample ID: 400-160850-7

Date Collected: 10/18/18 09:55
Date Received: 10/19/18 14:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 14:00	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	50	417354	10/26/18 14:43	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:33	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		10	417589	10/29/18 17:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 08:48	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	417368	10/29/18 10:12	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 09:55	AW	TAL PEN

Client Sample ID: MW-101 — Lab Sample ID: 400-160850-8

Date Collected: 10/18/18 07:06
Date Received: 10/19/18 14:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 14:04	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:35	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417012	10/25/18 17:12	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/29/18 16:57	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 08:51	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:49	RRC	TAL PEN
Total/NA	Analysis	Field Sampling		1	418909	10/18/18 07:06	AW	TAL PEN

Client Sample ID: DUP-03 — Lab Sample ID: 400-160850-9

Date Collected: 10/18/18 08:55
Date Received: 10/19/18 14:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 14:07	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	50	417354	10/26/18 14:47	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:37	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		10	417589	10/29/18 17:25	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 08:54	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		20	417368	10/29/18 10:16	RRC	TAL PEN

Lab Chronicle

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: FB-02

Lab Sample ID: 400-160850-10
Date Collected: 10/18/18 14:30
Matrix: Water
Date Received: 10/19/18 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 14:11	DRE	TAL PEN
Total/NA	Prep	7470A			417773	10/31/18 10:01	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 14:49	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417028	10/25/18 17:34	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/30/18 09:44	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 08:58	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:49	RRC	TAL PEN

Client Sample ID: EB-02

Lab Sample ID: 400-160850-11
Date Collected: 10/18/18 11:05
Matrix: Water
Date Received: 10/19/18 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			417030	10/25/18 17:53	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	417354	10/26/18 14:32	DRE	TAL PEN
Total/NA	Prep	7470A			417787	10/31/18 10:33	JAP	TAL PEN
Total/NA	Analysis	7470A		1	418016	11/01/18 16:04	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	417012	10/25/18 17:12	CLB	TAL PEN
Total/NA	Analysis	SM 4500 Cl- E		1	417589	10/30/18 09:44	RRC	TAL PEN
Total/NA	Analysis	SM 4500 F C		1	417361	10/29/18 09:02	BAB	TAL PEN
Total/NA	Analysis	SM 4500 SO4 E		1	417368	10/29/18 09:49	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 Plant Crist

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Metals

Prep Batch: 417030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total Recoverable	Water	3005A	
400-160850-2	MW-103	Total Recoverable	Water	3005A	
400-160850-3	MW-104	Total Recoverable	Water	3005A	
400-160850-3 - DL	MW-104	Total Recoverable	Water	3005A	
400-160850-4	MW-105	Total Recoverable	Water	3005A	
400-160850-5	MW-106	Total Recoverable	Water	3005A	
400-160850-6	MW-109	Total Recoverable	Water	3005A	
400-160850-7	MW-110	Total Recoverable	Water	3005A	
400-160850-7 - DL	MW-110	Total Recoverable	Water	3005A	
400-160850-8	MW-101	Total Recoverable	Water	3005A	
400-160850-9 - DL	DUP-03	Total Recoverable	Water	3005A	
400-160850-9	DUP-03	Total Recoverable	Water	3005A	
400-160850-10	FB-02	Total Recoverable	Water	3005A	
400-160850-11	EB-02	Total Recoverable	Water	3005A	
MB 400-417030/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-417030/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
490-161779-A-14-B MS ^5	Matrix Spike	Dissolved	Water	3005A	
490-161779-A-14-C MSD ^5	Matrix Spike Duplicate	Dissolved	Water	3005A	

Analysis Batch: 417354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total Recoverable	Water	6020	417030
400-160850-2	MW-103	Total Recoverable	Water	6020	417030
400-160850-3	MW-104	Total Recoverable	Water	6020	417030
400-160850-3 - DL	MW-104	Total Recoverable	Water	6020	417030
400-160850-4	MW-105	Total Recoverable	Water	6020	417030
400-160850-5	MW-106	Total Recoverable	Water	6020	417030
400-160850-6	MW-109	Total Recoverable	Water	6020	417030
400-160850-7	MW-110	Total Recoverable	Water	6020	417030
400-160850-7 - DL	MW-110	Total Recoverable	Water	6020	417030
400-160850-8	MW-101	Total Recoverable	Water	6020	417030
400-160850-9	DUP-03	Total Recoverable	Water	6020	417030
400-160850-9 - DL	DUP-03	Total Recoverable	Water	6020	417030
400-160850-10	FB-02	Total Recoverable	Water	6020	417030
400-160850-11	EB-02	Total Recoverable	Water	6020	417030
MB 400-417030/1-A ^5	Method Blank	Total Recoverable	Water	6020	417030
LCS 400-417030/2-A	Lab Control Sample	Total Recoverable	Water	6020	417030
490-161779-A-14-B MS ^5	Matrix Spike	Dissolved	Water	6020	417030
490-161779-A-14-C MSD ^5	Matrix Spike Duplicate	Dissolved	Water	6020	417030

Prep Batch: 417773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	7470A	
400-160850-2	MW-103	Total/NA	Water	7470A	
400-160850-3	MW-104	Total/NA	Water	7470A	
400-160850-4	MW-105	Total/NA	Water	7470A	
400-160850-5	MW-106	Total/NA	Water	7470A	
400-160850-6	MW-109	Total/NA	Water	7470A	
400-160850-7	MW-110	Total/NA	Water	7470A	
400-160850-8	MW-101	Total/NA	Water	7470A	
400-160850-9	DUP-03	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 417773 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-10	FB-02	Total/NA	Water	7470A	
MB 400-417773/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-417773/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-161164-E-1-C MS	Matrix Spike	Total/NA	Water	7470A	
400-161164-E-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Prep Batch: 417787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-11	EB-02	Total/NA	Water	7470A	
MB 400-417787/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-417787/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-160832-B-2-C MS	Matrix Spike	Total/NA	Water	7470A	
400-160832-B-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 418016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	7470A	417773
400-160850-2	MW-103	Total/NA	Water	7470A	417773
400-160850-3	MW-104	Total/NA	Water	7470A	417773
400-160850-4	MW-105	Total/NA	Water	7470A	417773
400-160850-5	MW-106	Total/NA	Water	7470A	417773
400-160850-6	MW-109	Total/NA	Water	7470A	417773
400-160850-7	MW-110	Total/NA	Water	7470A	417773
400-160850-8	MW-101	Total/NA	Water	7470A	417773
400-160850-9	DUP-03	Total/NA	Water	7470A	417773
400-160850-10	FB-02	Total/NA	Water	7470A	417773
400-160850-11	EB-02	Total/NA	Water	7470A	417787
MB 400-417773/14-A	Method Blank	Total/NA	Water	7470A	417773
MB 400-417787/14-A	Method Blank	Total/NA	Water	7470A	417787
LCS 400-417773/15-A	Lab Control Sample	Total/NA	Water	7470A	417773
LCS 400-417787/15-A	Lab Control Sample	Total/NA	Water	7470A	417787
400-160832-B-2-C MS	Matrix Spike	Total/NA	Water	7470A	417787
400-160832-B-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	417787
400-161164-E-1-C MS	Matrix Spike	Total/NA	Water	7470A	417773
400-161164-E-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	417773

General Chemistry

Analysis Batch: 417012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	SM 2540C	
400-160850-8	MW-101	Total/NA	Water	SM 2540C	
400-160850-11	EB-02	Total/NA	Water	SM 2540C	
MB 400-417012/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-417012/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-160944-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	
400-161031-E-5 DU	Duplicate	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 417028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-2	MW-103	Total/NA	Water	SM 2540C	
400-160850-3	MW-104	Total/NA	Water	SM 2540C	
400-160850-4	MW-105	Total/NA	Water	SM 2540C	
400-160850-5	MW-106	Total/NA	Water	SM 2540C	
400-160850-6	MW-109	Total/NA	Water	SM 2540C	
400-160850-7	MW-110	Total/NA	Water	SM 2540C	
400-160850-9	DUP-03	Total/NA	Water	SM 2540C	
400-160850-10	FB-02	Total/NA	Water	SM 2540C	
MB 400-417028/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-417028/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-160850-4 DU	MW-105	Total/NA	Water	SM 2540C	
400-160850-9 DU	DUP-03	Total/NA	Water	SM 2540C	

Analysis Batch: 417309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	SM 4500 F C	
400-160850-2	MW-103	Total/NA	Water	SM 4500 F C	
400-160850-3	MW-104	Total/NA	Water	SM 4500 F C	
400-160850-4	MW-105	Total/NA	Water	SM 4500 F C	
MB 400-417309/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-417309/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-160768-I-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
400-160768-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
400-160814-A-4 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 417361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-5	MW-106	Total/NA	Water	SM 4500 F C	
400-160850-6	MW-109	Total/NA	Water	SM 4500 F C	
400-160850-7	MW-110	Total/NA	Water	SM 4500 F C	
400-160850-8	MW-101	Total/NA	Water	SM 4500 F C	
400-160850-9	DUP-03	Total/NA	Water	SM 4500 F C	
400-160850-10	FB-02	Total/NA	Water	SM 4500 F C	
400-160850-11	EB-02	Total/NA	Water	SM 4500 F C	
MB 400-417361/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 400-417361/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
400-160850-5 MS	MW-106	Total/NA	Water	SM 4500 F C	
400-160850-5 MSD	MW-106	Total/NA	Water	SM 4500 F C	
400-160930-C-2 DU	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 417368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-2	MW-103	Total/NA	Water	SM 4500 SO4 E	
400-160850-3	MW-104	Total/NA	Water	SM 4500 SO4 E	
400-160850-4	MW-105	Total/NA	Water	SM 4500 SO4 E	
400-160850-5	MW-106	Total/NA	Water	SM 4500 SO4 E	
400-160850-6	MW-109	Total/NA	Water	SM 4500 SO4 E	
400-160850-7	MW-110	Total/NA	Water	SM 4500 SO4 E	
400-160850-8	MW-101	Total/NA	Water	SM 4500 SO4 E	
400-160850-9	DUP-03	Total/NA	Water	SM 4500 SO4 E	
400-160850-10	FB-02	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 417368 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-11	EB-02	Total/NA	Water	SM 4500 SO4 E	
MB 400-417368/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-417368/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-417368/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-160861-O-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-160861-O-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	
460-167172-E-1 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
460-167172-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 417589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-2	MW-103	Total/NA	Water	SM 4500 Cl- E	
400-160850-3	MW-104	Total/NA	Water	SM 4500 Cl- E	
400-160850-4	MW-105	Total/NA	Water	SM 4500 Cl- E	
400-160850-5	MW-106	Total/NA	Water	SM 4500 Cl- E	
400-160850-6	MW-109	Total/NA	Water	SM 4500 Cl- E	
400-160850-7	MW-110	Total/NA	Water	SM 4500 Cl- E	
400-160850-8	MW-101	Total/NA	Water	SM 4500 Cl- E	
400-160850-9	DUP-03	Total/NA	Water	SM 4500 Cl- E	
400-160850-10	FB-02	Total/NA	Water	SM 4500 Cl- E	
400-160850-11	EB-02	Total/NA	Water	SM 4500 Cl- E	
MB 400-417589/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-417589/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-417589/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-160850-8 MS	MW-101	Total/NA	Water	SM 4500 Cl- E	
400-160850-8 MSD	MW-101	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 417638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	SM 4500 Cl- E	
MB 400-417638/6	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 400-417638/7	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MRL 400-417638/3	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
400-161104-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 Cl- E	
400-161104-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 417786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	SM 4500 SO4 E	
MB 400-417786/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-417786/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-417786/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
400-160968-B-9 MS	Matrix Spike	Total/NA	Water	SM 4500 SO4 E	
400-160968-B-9 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 SO4 E	

Field Service / Mobile Lab

Analysis Batch: 418909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	Field Sampling	

Field Service / Mobile Lab (Continued)

Analysis Batch: 418909 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-2	MW-103	Total/NA	Water	Field Sampling	
400-160850-3	MW-104	Total/NA	Water	Field Sampling	
400-160850-4	MW-105	Total/NA	Water	Field Sampling	
400-160850-5	MW-106	Total/NA	Water	Field Sampling	
400-160850-6	MW-109	Total/NA	Water	Field Sampling	
400-160850-7	MW-110	Total/NA	Water	Field Sampling	
400-160850-8	MW-101	Total/NA	Water	Field Sampling	

QC Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-417030/1-A ^5
Matrix: Water
Analysis Batch: 417354

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 417030

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00046	U	0.0013	0.00046	mg/L		10/25/18 17:53	10/26/18 13:14	5
Barium	0.00049	U	0.0025	0.00049	mg/L		10/25/18 17:53	10/26/18 13:14	5
Beryllium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:14	5
Boron	0.021	U	0.050	0.021	mg/L		10/25/18 17:53	10/26/18 13:14	5
Cadmium	0.00034	U	0.0025	0.00034	mg/L		10/25/18 17:53	10/26/18 13:14	5
Calcium	0.13	U	0.25	0.13	mg/L		10/25/18 17:53	10/26/18 13:14	5
Chromium	0.0011	U	0.0025	0.0011	mg/L		10/25/18 17:53	10/26/18 13:14	5
Cobalt	0.00040	U	0.0025	0.00040	mg/L		10/25/18 17:53	10/26/18 13:14	5
Lead	0.00035	U	0.0013	0.00035	mg/L		10/25/18 17:53	10/26/18 13:14	5
Lithium	0.0011	U	0.0050	0.0011	mg/L		10/25/18 17:53	10/26/18 13:14	5
Molybdenum	0.0020	U	0.015	0.0020	mg/L		10/25/18 17:53	10/26/18 13:14	5
Selenium	0.00071	U	0.0013	0.00071	mg/L		10/25/18 17:53	10/26/18 13:14	5
Thallium	0.000085	U	0.00050	0.000085	mg/L		10/25/18 17:53	10/26/18 13:14	5

Lab Sample ID: LCS 400-417030/2-A
Matrix: Water
Analysis Batch: 417354

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 417030

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0501		mg/L		100	80 - 120
Barium	0.0500	0.0481		mg/L		96	80 - 120
Beryllium	0.0500	0.0493		mg/L		99	80 - 120
Boron	0.100	0.0974		mg/L		97	80 - 120
Cadmium	0.0500	0.0511		mg/L		102	80 - 120
Calcium	5.00	4.80		mg/L		96	80 - 120
Chromium	0.0500	0.0498		mg/L		100	80 - 120
Cobalt	0.0500	0.0518		mg/L		104	80 - 120
Lead	0.0500	0.0502		mg/L		100	80 - 120
Lithium	0.0500	0.0520		mg/L		104	80 - 120
Molybdenum	0.0500	0.0498		mg/L		100	80 - 120
Selenium	0.0500	0.0488		mg/L		98	80 - 120
Thallium	0.0100	0.00913		mg/L		91	80 - 120

Lab Sample ID: 490-161779-A-14-B MS ^5
Matrix: Water
Analysis Batch: 417354

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 417030

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0046		0.0500	0.0523		mg/L		96	75 - 125
Barium	0.012		0.0500	0.0569		mg/L		90	75 - 125
Beryllium	0.024		0.0500	0.0768		mg/L		106	75 - 125
Boron	0.14		0.100	0.262		mg/L		120	75 - 125
Cadmium	0.00034	I	0.0500	0.0495		mg/L		98	75 - 125
Calcium	200	L	5.00	229	L J3	mg/L		514	75 - 125
Chromium	0.014		0.0500	0.0596		mg/L		92	75 - 125
Cobalt	0.12		0.0500	0.165		mg/L		88	75 - 125
Lead	0.0061		0.0500	0.0566		mg/L		101	75 - 125
Lithium	0.054		0.0500	0.107		mg/L		106	75 - 125

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

Lab Sample ID: 490-161779-A-14-B MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 417354 — **Prep Batch: 417030**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Molybdenum	0.0020	U	0.0500	0.0477		mg/L		95	75 - 125		
Selenium	0.0032		0.0500	0.0554		mg/L		104	75 - 125		
Thallium	0.000085	U	0.0100	0.00958		mg/L		96	75 - 125		

Lab Sample ID: 490-161779-A-14-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 417354 — **Prep Batch: 417030**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0046		0.0500	0.0518		mg/L		95	75 - 125	1	20
Barium	0.012		0.0500	0.0568		mg/L		90	75 - 125	0	20
Beryllium	0.024		0.0500	0.0770		mg/L		106	75 - 125	0	20
Boron	0.14		0.100	0.256		mg/L		114	75 - 125	2	20
Cadmium	0.00034	I	0.0500	0.0489		mg/L		97	75 - 125	1	20
Calcium	200	L	5.00	232	L J3	mg/L		578	75 - 125	1	20
Chromium	0.014		0.0500	0.0593		mg/L		91	75 - 125	1	20
Cobalt	0.12		0.0500	0.166		mg/L		89	75 - 125	0	20
Lead	0.0061		0.0500	0.0569		mg/L		102	75 - 125	1	20
Lithium	0.054		0.0500	0.108		mg/L		108	75 - 125	1	20
Molybdenum	0.0020	U	0.0500	0.0478		mg/L		96	75 - 125	0	20
Selenium	0.0032		0.0500	0.0551		mg/L		104	75 - 125	1	20
Thallium	0.000085	U	0.0100	0.00977		mg/L		98	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-417773/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417773**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/31/18 09:42	11/01/18 13:33	1

Lab Sample ID: LCS 400-417773/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417773**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00101	0.00102		mg/L		101	80 - 120		

Lab Sample ID: 400-161164-E-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417773**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.000070	U	0.00201	0.00151	J3	mg/L		75	80 - 120		

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

Lab Sample ID: 400-161164-E-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417773**

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	0.00141	J3	mg/L		70	80 - 120	7	20

Lab Sample ID: MB 400-417787/14-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417787**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000070	U	0.00020	0.000070	mg/L		10/31/18 10:32	11/01/18 14:51	1

Lab Sample ID: LCS 400-417787/15-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417787**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00101	0.00105		mg/L		104	80 - 120

Lab Sample ID: 400-160832-B-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417787**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000070	U	0.00201	0.00208		mg/L		103	80 - 120

Lab Sample ID: 400-160832-B-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 418016 — **Prep Batch: 417787**

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	0.00208		mg/L		103	80 - 120	0	20

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

Lab Sample ID: MB 400-417012/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417012

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			10/25/18 17:12	1

Lab Sample ID: LCS 400-417012/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	300		mg/L		102	78 - 122

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

Lab Sample ID: 400-160944-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417012

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	68			66.0		mg/L				3	5

Lab Sample ID: 400-161031-E-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417012

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	230			232		mg/L				0.9	5

Lab Sample ID: MB 400-417028/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417028

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			10/25/18 17:34	1

Lab Sample ID: LCS 400-417028/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417028

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: 400-160850-4 DU — **Client Sample ID: MW-105**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417028

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	250			250		mg/L				0	5

Lab Sample ID: 400-160850-9 DU — **Client Sample ID: DUP-03**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417028

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	690			692		mg/L				0.3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 400-417589/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417589

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			10/29/18 16:54	1

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

Lab Sample ID: LCS 400-417589/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417589

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 400-417589/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417589

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	2.12		mg/L		106	50 - 150

Lab Sample ID: 400-160850-8 MS — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.2		10.0	16.3		mg/L		111	73 - 120

Lab Sample ID: 400-160850-8 MSD — **Client Sample ID: MW-101**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.2		10.0	16.1		mg/L		109	73 - 120	1	8

Lab Sample ID: MB 400-417638/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417638

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.4	U	2.0	1.4	mg/L			10/30/18 13:58	1

Lab Sample ID: LCS 400-417638/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30.0	31.5		mg/L		105	90 - 110

Lab Sample ID: MRL 400-417638/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417638

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.00	1.82	I	mg/L		91	50 - 150

Lab Sample ID: 400-161104-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.3		10.0	16.2		mg/L		118	73 - 120

Lab Sample ID: 400-161104-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417638

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.3		10.0	16.2		mg/L		119	73 - 120	0	8

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 400-417309/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 11:00	1

Lab Sample ID: LCS 400-417309/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.26		mg/L		107	90 - 110

Lab Sample ID: 400-160768-I-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.52		1.00	1.63		mg/L		111	75 - 125

Lab Sample ID: 400-160768-I-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.52		1.00	1.63		mg/L		111	75 - 125	0	4

Lab Sample ID: 400-160814-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417309

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 400-417361/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417361

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 08:24	1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 400-417361/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.26		mg/L		107	90 - 110		

Lab Sample ID: 400-160850-5 MS — **Client Sample ID: MW-106**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.032	U	1.00	1.14		mg/L		114	75 - 125		

Lab Sample ID: 400-160850-5 MSD — **Client Sample ID: MW-106**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417361

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	1.14		mg/L		114	75 - 125	0	4

Lab Sample ID: 400-160930-C-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417361

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	0.78			0.770		mg/L				1	4

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-417368/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			10/29/18 09:38	1

Lab Sample ID: LCS 400-417368/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	13.9		mg/L		93	90 - 110		

Lab Sample ID: MRL 400-417368/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.11	I	mg/L		82	50 - 150		

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

Lab Sample ID: 400-160861-O-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

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

Lab Sample ID: 400-160861-O-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

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	1.4	U J3	mg/L		0	77 - 128	NC	5

Lab Sample ID: 460-167172-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	38		10.0	43.1	J3	mg/L		48	77 - 128		

Lab Sample ID: 460-167172-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417368

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	38		10.0	43.7	J3	mg/L		54	77 - 128	1	5

Lab Sample ID: MB 400-417786/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417786

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.4	U	5.0	1.4	mg/L			10/31/18 08:36	1

Lab Sample ID: LCS 400-417786/7 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417786

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.8		mg/L		98	90 - 110		

Lab Sample ID: MRL 400-417786/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417786

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.11	I	mg/L		82	50 - 150		

Lab Sample ID: 400-160968-B-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 417786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	13		10.0	20.6		mg/L		79	77 - 128		

QC Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Lab Sample ID: 400-160968-B-9 MSD
Matrix: Water
Analysis Batch: 417786

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	13		10.0	20.9		mg/L		82	77 - 128	2	5

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Brett Sutton	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-2
Company: Gulf Power Company				Job #: 1601850
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 Plant Crist	Project #: 40006609			
Site: Landfill 1	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:

400-160850 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 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	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-102	10/19/18	1325	G	Water			X	X	X	X		
MW-103	10/18/18	1420		Water								
MW-104	10/18/18	1106		Water								
MW-105	10/18/18	0930		Water								
MW-106	10/18/18	0815		Water								
MW-109	10/18/18	1100		Water								
MW-110	10/18/18	0955		Water								
MW-101	10/18/18	0704		Water								
Dup-03	10/18/18	0855		Water								
FB-02	10/18/18	1430		Water								
EB-02	10/18/18	1105	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]	10/19/18 1410	RDH	[signature]	10/19/18 1410	TAI Pens.

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.2°C, 1.5°C, 0.9°C IR-7

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-160850-1
SDG Number: Landfill 1

Login Number: 160850
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	1.2°C 1.5°C 0.9°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 Plant Crist

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	12-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-160850-2
TestAmerica Sample Delivery Group: Landfill 1
Client Project/Site: CCR Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
11/19/2018 5:52:07 PM

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

LINKS

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Method Summary 3
Sample Summary 4
Client Sample Results 5
Definitions 16
Chronicle 17
QC Association 20
QC Sample Results 21
Chain of Custody 23
Receipt Checklists 24
Certification Summary 26

Method Summary

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160850-1	MW-102	Water	10/19/18 13:25	10/19/18 14:10
400-160850-2	MW-103	Water	10/18/18 14:20	10/19/18 14:10
400-160850-3	MW-104	Water	10/18/18 11:06	10/19/18 14:10
400-160850-4	MW-105	Water	10/18/18 09:30	10/19/18 14:10
400-160850-5	MW-106	Water	10/18/18 08:15	10/19/18 14:10
400-160850-6	MW-109	Water	10/18/18 11:00	10/19/18 14:10
400-160850-7	MW-110	Water	10/18/18 09:55	10/19/18 14:10
400-160850-8	MW-101	Water	10/18/18 07:06	10/19/18 14:10
400-160850-9	DUP-03	Water	10/18/18 08:55	10/19/18 14:10
400-160850-10	FB-02	Water	10/18/18 14:30	10/19/18 14:10
400-160850-11	EB-02	Water	10/18/18 11:05	10/19/18 14:10

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-102

Date Collected: 10/19/18 13:25
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-1

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	0.519		0.192	0.197	1.00	0.201	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.483		0.233	0.237	1.00	0.331	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.9*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*80.7*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	1.00		0.302	0.308	5.00	0.331	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-103

Date Collected: 10/18/18 14:20
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-2

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	1.97		0.341	0.384	1.00	0.179	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.4*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.62		0.492	0.594	1.00	0.445	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.4*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*79.6*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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		0.599	0.707	5.00	0.445	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-104

Date Collected: 10/18/18 11:06
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-3

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	2.24		0.357	0.410	1.00	0.177	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	9.82		0.744	1.17	1.00	0.408	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*75.1*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	12.1		0.825	1.24	5.00	0.408	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-105

Date Collected: 10/18/18 09:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-4

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	1.13		0.304	0.320	1.00	0.244	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.76		0.471	0.498	1.00	0.589	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*78.9*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	2.89		0.561	0.592	5.00	0.589	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-106

Date Collected: 10/18/18 08:15
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-5

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.305		0.146	0.148	1.00	0.162	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.741		0.278	0.286	1.00	0.375	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*77.0*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.05		0.314	0.322	5.00	0.375	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-109

Date Collected: 10/18/18 11:00
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-6

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.886		0.227	0.241	1.00	0.163	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.882		0.299	0.309	1.00	0.393	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*78.9*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	1.77		0.375	0.392	5.00	0.393	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-110

Date Collected: 10/18/18 09:55
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-7

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	2.72		0.384	0.455	1.00	0.176	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.50		0.537	0.678	1.00	0.454	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*75.5*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	7.22		0.660	0.817	5.00	0.454	pCi/L		11/19/18 16:49	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-101

Date Collected: 10/18/18 07:06
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-8

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.602**		0.195	0.202	1.00	0.166	pCi/L	10/24/18 13:38	11/15/18 13:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.342	U	0.271	0.273	1.00	0.429	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*78.1*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	**0.944**		0.334	0.340	5.00	0.429	pCi/L		11/19/18 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: DUP-03

Date Collected: 10/18/18 08:55
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-9

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	2.35		0.357	0.415	1.00	0.193	pCi/L	10/24/18 13:38	11/15/18 13:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:12*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.27		0.506	0.641	1.00	0.372	pCi/L	10/24/18 14:00	11/13/18 16:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*1*
Y Carrier	*82.2*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:52*	*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	6.63		0.619	0.764	5.00	0.372	pCi/L		11/19/18 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: FB-02

Date Collected: 10/18/18 14:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-10

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	0.140	U	0.115	0.116	1.00	0.168	pCi/L	10/24/18 13:38	11/15/18 13:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.0*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:12*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0175	U	0.226	0.226	1.00	0.412	pCi/L	10/24/18 14:00	11/13/18 16:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.0*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:53*	*1*
Y Carrier	*80.4*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:53*	*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	0.123	U	0.254	0.254	5.00	0.412	pCi/L		11/19/18 16:51	1

Client Sample Results

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: EB-02

Date Collected: 10/18/18 11:05
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-11

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	**0.203**		0.115	0.117	1.00	0.130	pCi/L	10/24/18 13:38	11/15/18 13:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:12*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.244	U	0.233	0.234	1.00	0.457	pCi/L	10/24/18 14:00	11/13/18 16:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.9*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:53*	*1*
Y Carrier	*78.9*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:53*	*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	-0.0412	U	0.260	0.262	5.00	0.457	pCi/L		11/19/18 16:51	1

Definitions/Glossary

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Qualifiers

Rad

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

Glossary

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

Lab Chronicle

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-102
Date Collected: 10/19/18 13:25
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Client Sample ID: MW-103
Date Collected: 10/18/18 14:20
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Client Sample ID: MW-104
Date Collected: 10/18/18 11:06
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Client Sample ID: MW-105
Date Collected: 10/18/18 09:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: MW-106 — Lab Sample ID: 400-160850-5

Date Collected: 10/18/18 08:15 — **Matrix: Water**
Date Received: 10/19/18 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Client Sample ID: MW-109 — Lab Sample ID: 400-160850-6

Date Collected: 10/18/18 11:00 — **Matrix: Water**
Date Received: 10/19/18 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Client Sample ID: MW-110 — Lab Sample ID: 400-160850-7

Date Collected: 10/18/18 09:55 — **Matrix: Water**
Date Received: 10/19/18 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:49	RTM	TAL SL

Client Sample ID: MW-101 — Lab Sample ID: 400-160850-8

Date Collected: 10/18/18 07:06 — **Matrix: Water**
Date Received: 10/19/18 14:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401090	11/15/18 13:09	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:51	RTM	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Client Sample ID: DUP-03
Date Collected: 10/18/18 08:55
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401091	11/15/18 13:12	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:52	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:51	RTM	TAL SL

Client Sample ID: FB-02
Date Collected: 10/18/18 14:30
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401091	11/15/18 13:12	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:53	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:51	RTM	TAL SL

Client Sample ID: EB-02
Date Collected: 10/18/18 11:05
Date Received: 10/19/18 14:10

Lab Sample ID: 400-160850-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			397076	10/24/18 13:38	JLC	TAL SL
Total/NA	Analysis	9315		1	401091	11/15/18 13:12	CDR	TAL SL
Total/NA	Prep	PrecSep_0			397125	10/24/18 14:00	JLC	TAL SL
Total/NA	Analysis	9320		1	400704	11/13/18 16:53	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	401672	11/19/18 16:51	RTM	TAL SL

Laboratory References:

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

QC Association Summary

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Rad

Prep Batch: 397076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	PrecSep-21	
400-160850-2	MW-103	Total/NA	Water	PrecSep-21	
400-160850-3	MW-104	Total/NA	Water	PrecSep-21	
400-160850-4	MW-105	Total/NA	Water	PrecSep-21	
400-160850-5	MW-106	Total/NA	Water	PrecSep-21	
400-160850-6	MW-109	Total/NA	Water	PrecSep-21	
400-160850-7	MW-110	Total/NA	Water	PrecSep-21	
400-160850-8	MW-101	Total/NA	Water	PrecSep-21	
400-160850-9	DUP-03	Total/NA	Water	PrecSep-21	
400-160850-10	FB-02	Total/NA	Water	PrecSep-21	
400-160850-11	EB-02	Total/NA	Water	PrecSep-21	
MB 160-397076/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-397076/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
680-159535-C-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 397125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160850-1	MW-102	Total/NA	Water	PrecSep_0	
400-160850-2	MW-103	Total/NA	Water	PrecSep_0	
400-160850-3	MW-104	Total/NA	Water	PrecSep_0	
400-160850-4	MW-105	Total/NA	Water	PrecSep_0	
400-160850-5	MW-106	Total/NA	Water	PrecSep_0	
400-160850-6	MW-109	Total/NA	Water	PrecSep_0	
400-160850-7	MW-110	Total/NA	Water	PrecSep_0	
400-160850-8	MW-101	Total/NA	Water	PrecSep_0	
400-160850-9	DUP-03	Total/NA	Water	PrecSep_0	
400-160850-10	FB-02	Total/NA	Water	PrecSep_0	
400-160850-11	EB-02	Total/NA	Water	PrecSep_0	
MB 160-397125/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-397125/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
680-159535-C-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-397076/20-A
Matrix: Water
Analysis Batch: 401091

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 397076

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.3136		0.145	0.148	1.00	0.144	pCi/L	10/24/18 13:38	11/15/18 13:12	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*10/24/18 13:38*	*11/15/18 13:12*	*1*

Lab Sample ID: LCS 160-397076/1-A
Matrix: Water
Analysis Batch: 401090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 397076

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	12.17		1.37	1.00	0.187	pCi/L	107	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.3*		*40 - 110*

Lab Sample ID: 680-159535-C-1-A DU
Matrix: Water
Analysis Batch: 401090

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 397076

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.591			0.3645		0.188	1.00	0.205	pCi/L			0.53	1

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

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-397125/20-A
Matrix: Water
Analysis Batch: 400704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 397125

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1165	U	0.280	0.280	1.00	0.481	pCi/L	10/24/18 14:00	11/13/18 16:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:53*	*1*
Y Carrier	*78.1*		*40 - 110*	*10/24/18 14:00*	*11/13/18 16:53*	*1*

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

Lab Sample ID: LCS 160-397125/1-A
Matrix: Water
Analysis Batch: 400704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 397125

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.22	10.02		1.22	1.00	0.508	pCi/L	109	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.3*		*40 - 110*
Y Carrier	*74.4*		*40 - 110*

Lab Sample ID: 680-159535-C-1-B DU
Matrix: Water
Analysis Batch: 400704

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 397125

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.315	U		0.6021		0.348	1.00	0.517	pCi/L			0.43	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*80.7*		*40 - 110*

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

Lab Sample ID: 400-160352-A-16 DU
Matrix: Water
Analysis Batch: 401672

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	0.433	U		0.3324	U	0.388	5.00	0.532	pCi/L			0.14	

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 Sutton	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No:
Client Contact: Kristi Mitchell	Phone: 850 380 3458	E-Mail: cheyenne.whitmire@testamericainc.com		Page: 1-2
Company: Gulf Power Company				Job #: 1601850
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 Plant Crist	Project #: 40006609			
Site: Landfill 1	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:

400-160850 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 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	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D	N		
MW-102	10/19/18	1325	G	Water			X	X	X	X		
MW-103	10/18/18	1420		Water								
MW-104	10/18/18	1106		Water								
MW-105	10/18/18	0930		Water								
MW-106	10/18/18	0815		Water								
MW-109	10/18/18	1100		Water								
MW-110	10/18/18	0955		Water								
MW-101	10/18/18	0704		Water								
Dup-03	10/18/18	0855		Water								
FB-02	10/18/18	1430		Water								
EB-02	10/18/18	1105	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]	10/19/18 1410	RDH	[signature]	10/19/18 1410	TAI Pens.

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.2°C, 1.5°C, 0.9°C IR-7

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-160850-2
SDG Number: Landfill 1

Login Number: 160850
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	1.2°C 1.5°C 0.9°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: 400-160850-2
SDG Number: Landfill 1

Login Number: 160850
List Number: 2
Creator: Hellm, Michael

List Source: TestAmerica St. Louis
List Creation: 10/23/18 01:30 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.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	23.0
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").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

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

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-160850-2
SDG: Landfill 1

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

APPENDIX B

Statistical Analyses

JUNE 2018 STATISTICAL ANALYSIS – ASSESSMENT MONITORING STATISTICS

Series 100 Confidence Intervals - Significant Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Cobalt (mg/L)	**MW-104**	**0.02416**	**0.01404**	**0.006**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-103**	**7.711**	**5.511**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-104**	**19.83**	**11.78**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-110**	**8.116**	**5.85**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Mercury (mg/L)	**MW-110**	**0.006777**	**0.004139**	**0.002**	**Yes**	**10**	**0**	**x^2**	**0.01**	**Param.**

Series 100 Confidence Intervals - All Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	MW-102	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	MW-103	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	MW-104	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	MW-105	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	MW-106	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	MW-109	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Antimony (mg/L)	MW-110	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-102	0.00065	0.0005	0.01	No	10	90	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-103	0.00065	0.00051	0.01	No	10	90	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-104	0.009542	0.005138	0.01	No	10	0	No	0.01	Param.
Arsenic (mg/L)	MW-105	0.003861	0.003439	0.01	No	10	0	No	0.01	Param.
Arsenic (mg/L)	MW-106	0.00065	0.00065	0.01	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-109	0.00065	0.00065	0.01	No	10	100	No	0.011	NP (NDs)
Arsenic (mg/L)	MW-110	0.00065	0.00047	0.01	No	10	50	No	0.011	NP (normality)
Barium (mg/L)	MW-102	0.01103	0.008428	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-103	0.06609	0.05351	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-104	0.02697	0.01923	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-105	0.04881	0.03739	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-106	0.01327	0.0093	2	No	10	0	ln(x)	0.01	Param.
Barium (mg/L)	MW-109	0.02144	0.01756	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MW-110	0.05178	0.04002	2	No	10	0	No	0.01	Param.
Beryllium (mg/L)	MW-102	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-103	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-104	0.001386	0.000946	0.004	No	10	0	No	0.01	Param.
Beryllium (mg/L)	MW-105	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-106	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-109	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MW-110	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-102	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-103	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-104	0.00125	0.00049	0.005	No	10	70	No	0.011	NP (normality)
Cadmium (mg/L)	MW-105	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-106	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-109	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MW-110	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-102	0.00125	0.00125	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-103	0.00125	0.00125	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-104	0.0023	0.00125	0.1	No	10	10	No	0.011	NP (normality)
Chromium (mg/L)	MW-105	0.002556	0.001774	0.1	No	10	10	No	0.01	Param.
Chromium (mg/L)	MW-106	0.00125	0.00125	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-109	0.00125	0.00125	0.1	No	10	100	No	0.011	NP (NDs)
Chromium (mg/L)	MW-110	0.00125	0.00125	0.1	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-102	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-103	0.00125	0.00044	0.006	No	10	70	No	0.011	NP (normality)
Cobalt (mg/L)	**MW-104**	**0.02416**	**0.01404**	**0.006**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Cobalt (mg/L)	MW-105	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MW-106	0.0007419	0.0004381	0.006	No	10	0	No	0.01	Param.
Cobalt (mg/L)	MW-109	0.00481	0.003325	0.006	No	10	0	x^2	0.01	Param.
Cobalt (mg/L)	MW-110	0.0096	0.0041	0.006	No	10	0	No	0.011	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-102	2.006	1.196	5	No	10	0	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	**MW-103**	**7.711**	**5.511**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	**MW-104**	**19.83**	**11.78**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	MW-105	4.684	2.468	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-106	1.17	0.338	5	No	10	10	No	0.011	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-109	2.323	1.649	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	**MW-110**	**8.116**	**5.85**	**5**	**Yes**	**10**	**0**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-102	0.05	0.05	4	No	11	100	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-103	0.05	0.037	4	No	11	90.91	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-104	0.3991	0.2726	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MW-105	0.05	0.041	4	No	11	90.91	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-106	0.05	0.05	4	No	11	100	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-109	0.05	0.05	4	No	11	100	No	0.006	NP (NDs)
Fluoride (mg/L)	MW-110	0.05	0.039	4	No	11	81.82	No	0.006	NP (NDs)
Lead (mg/L)	MW-102	0.00065	0.00065	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	MW-103	0.00065	0.00065	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	MW-104	0.002634	0.001866	0.015	No	10	0	No	0.01	Param.
Lead (mg/L)	MW-105	0.00065	0.00065	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	MW-106	0.00065	0.00065	0.015	No	10	100	No	0.011	NP (NDs)

Series 100 Confidence Intervals - All Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lead (mg/L)	MW-109	0.00065	0.00065	0.015	No	10	100	No	0.011	NP (NDs)
Lead (mg/L)	MW-110	0.00065	0.00065	0.015	No	10	100	No	0.011	NP (NDs)
Lithium (mg/L)	MW-102	0.0025	0.0025	0.04	No	10	100	No	0.011	NP (NDs)
Lithium (mg/L)	MW-103	0.0025	0.0015	0.04	No	10	70	No	0.011	NP (normality)
Lithium (mg/L)	MW-104	0.04423	0.02477	0.04	No	10	0	No	0.01	Param.
Lithium (mg/L)	MW-105	0.0025	0.0025	0.04	No	10	100	No	0.011	NP (NDs)
Lithium (mg/L)	MW-106	0.0035	0.0025	0.04	No	10	80	No	0.011	NP (NDs)
Lithium (mg/L)	MW-109	0.007215	0.004545	0.04	No	10	0	No	0.01	Param.
Lithium (mg/L)	MW-110	0.01051	0.006431	0.04	No	10	0	No	0.01	Param.
Mercury (mg/L)	MW-102	0.0001	0.000094	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MW-103	0.0001	0.0001	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MW-104	0.001776	0.0007822	0.002	No	10	0	No	0.01	Param.
Mercury (mg/L)	MW-105	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MW-106	0.0001	0.00008	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MW-109	0.0001	0.000097	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	**MW-110**	**0.006777**	**0.004139**	**0.002**	**Yes**	**10**	**0**	**x^2**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-102	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-103	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-104	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-105	0.0054	0.0035	0.1	No	10	0	No	0.011	NP (normality)
Molybdenum (mg/L)	MW-106	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-109	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MW-110	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MW-102	0.00065	0.00028	0.05	No	10	70	No	0.011	NP (normality)
Selenium (mg/L)	MW-103	0.0032	0.00262	0.05	No	10	0	No	0.01	Param.
Selenium (mg/L)	MW-104	0.01622	0.005198	0.05	No	10	0	No	0.01	Param.
Selenium (mg/L)	MW-105	0.00065	0.00026	0.05	No	10	50	No	0.011	NP (normality)
Selenium (mg/L)	MW-106	0.00065	0.00065	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MW-109	0.00065	0.00065	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MW-110	0.003705	0.003015	0.05	No	10	0	No	0.01	Param.
Thallium (mg/L)	MW-102	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MW-103	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MW-104	0.0003723	0.0002617	0.002	No	10	0	No	0.01	Param.
Thallium (mg/L)	MW-105	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MW-106	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MW-109	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MW-110	0.0002879	0.0002161	0.002	No	10	0	No	0.01	Param.

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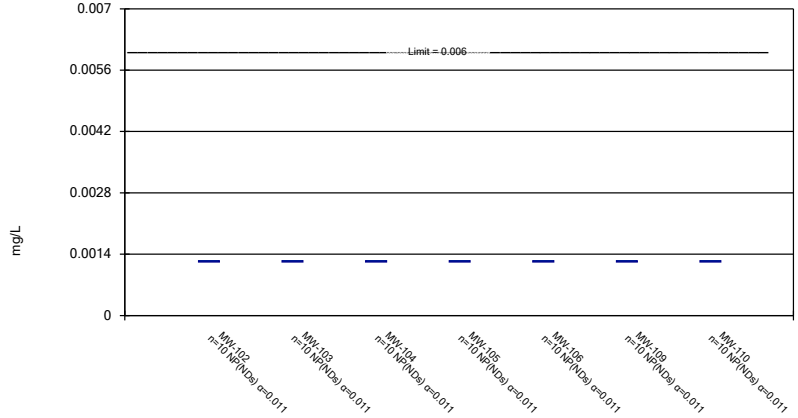
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 10/14/2018 5:08 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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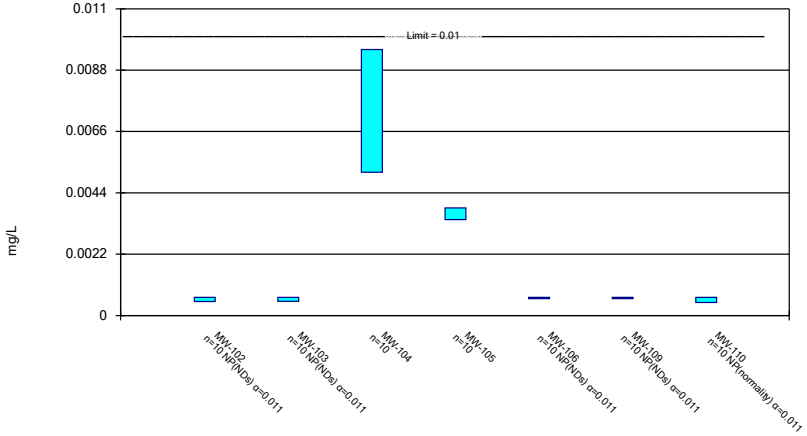
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 10/14/2018 5:08 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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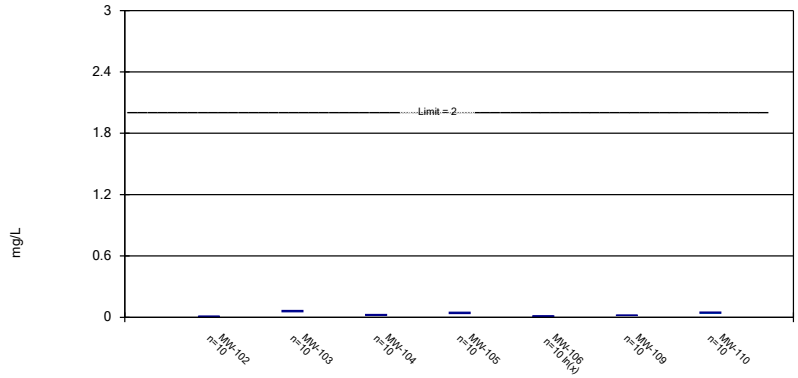
Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 10/14/2018 5:08 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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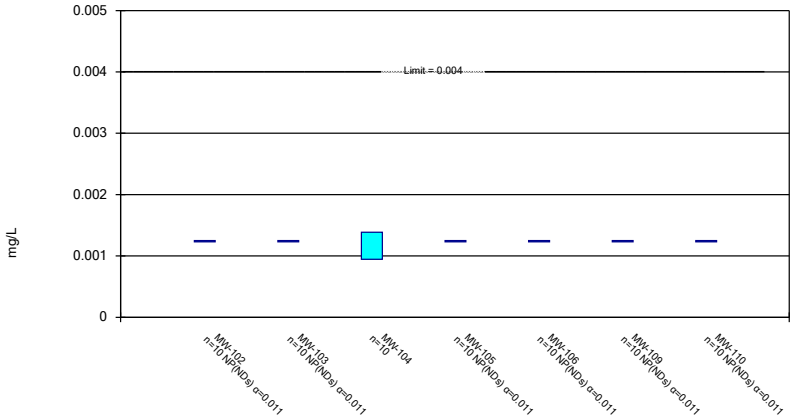
Parametric and Non-Parametric (NP) Confidence Interval

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 5:08 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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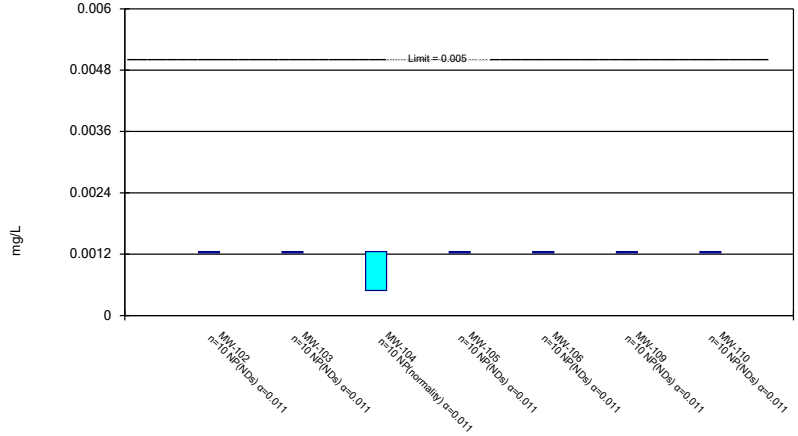
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 10/14/2018 5:08 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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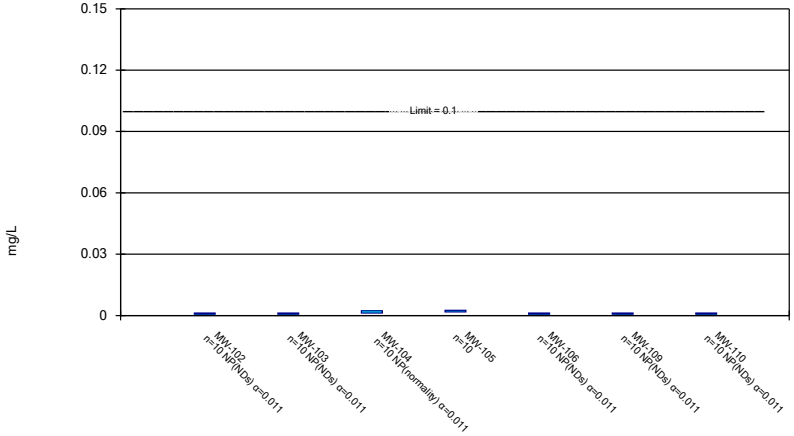
Parametric and Non-Parametric (NP) Confidence Interval

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 5:08 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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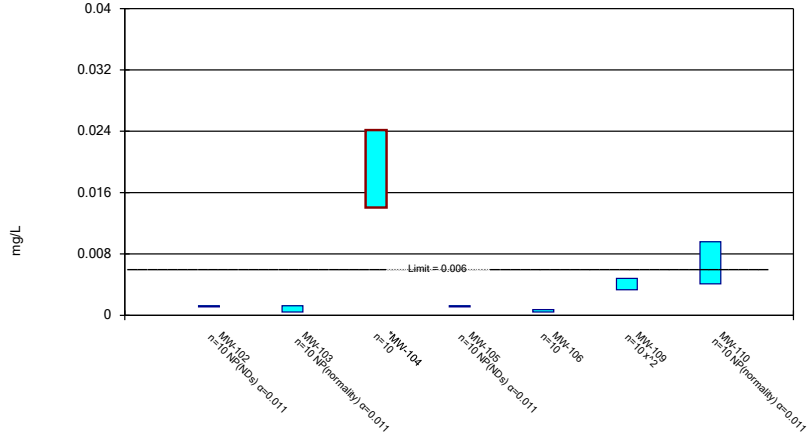
Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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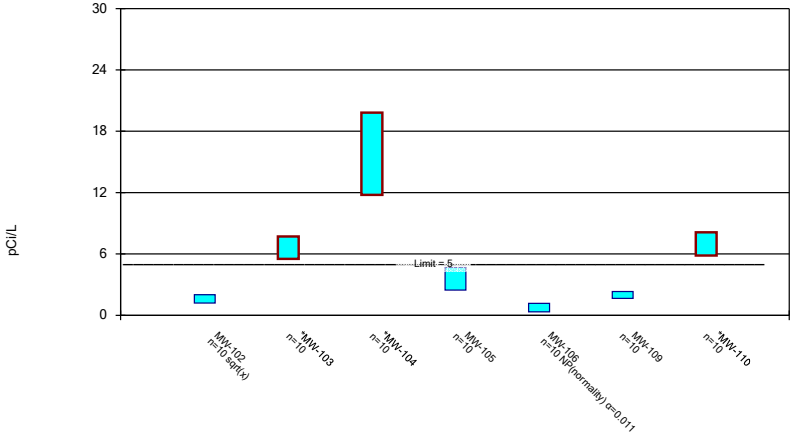
Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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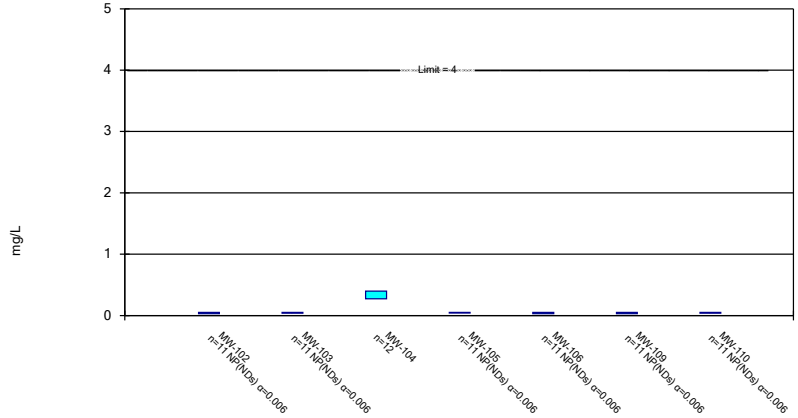
Parametric and Non-Parametric (NP) Confidence Interval

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 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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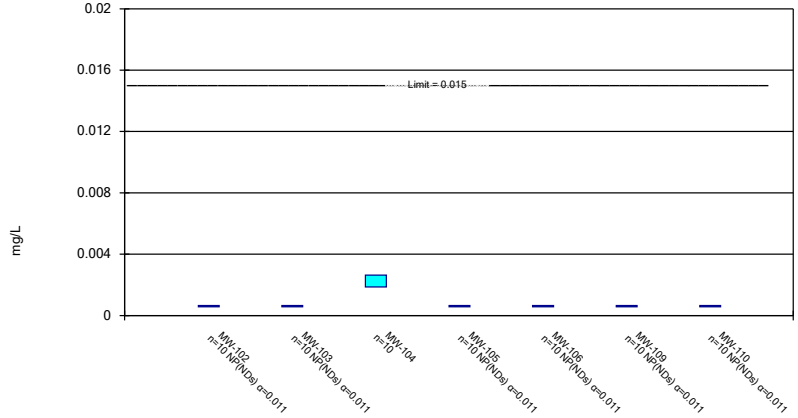
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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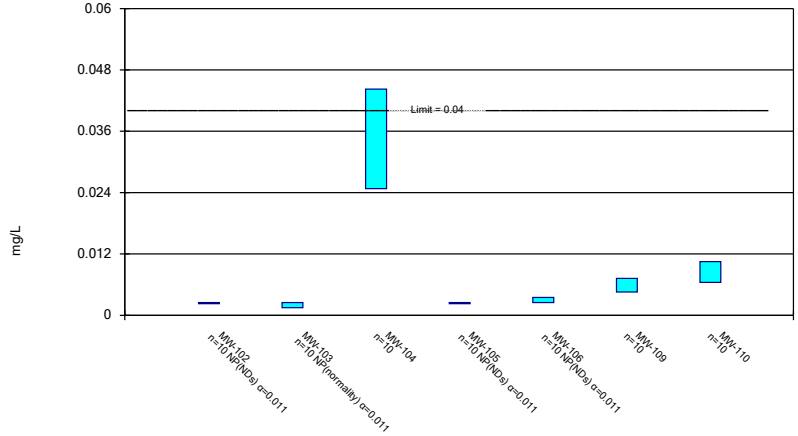
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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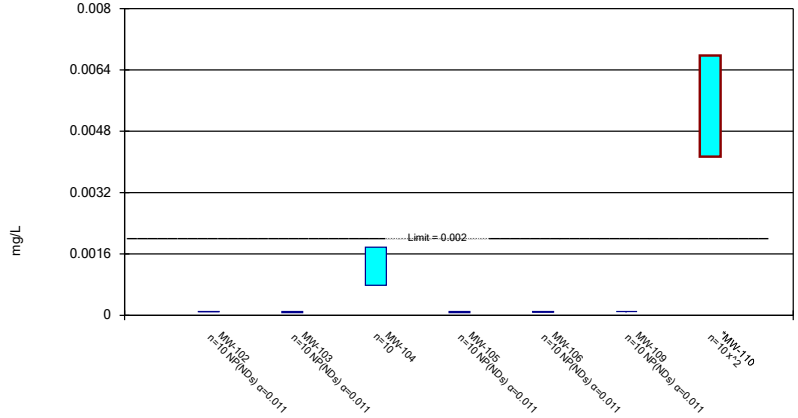
Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Mercury Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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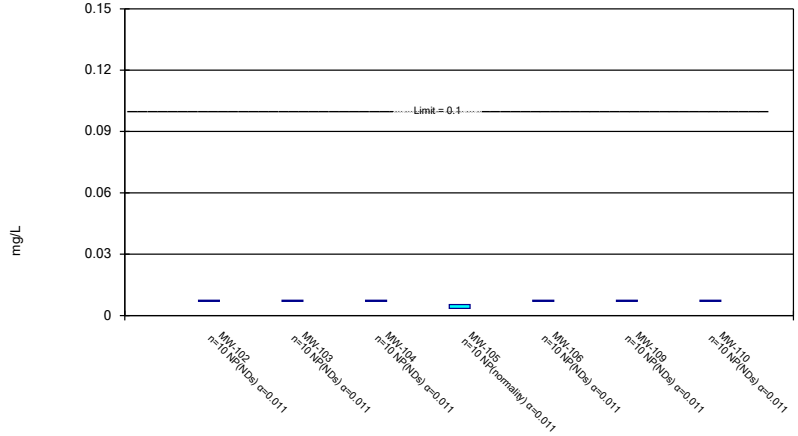
Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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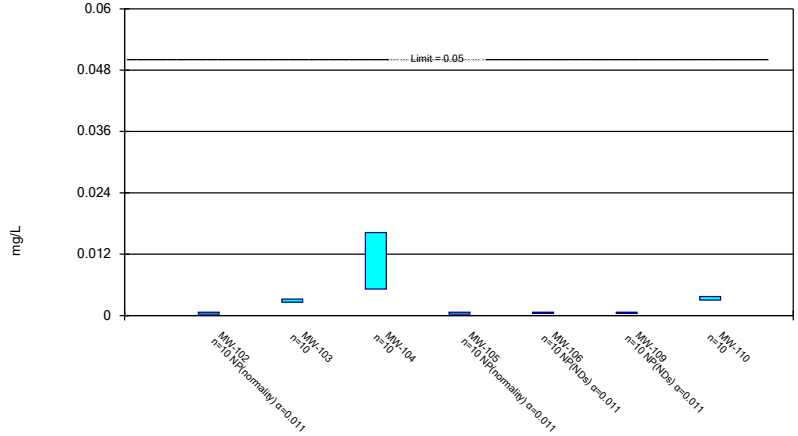
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



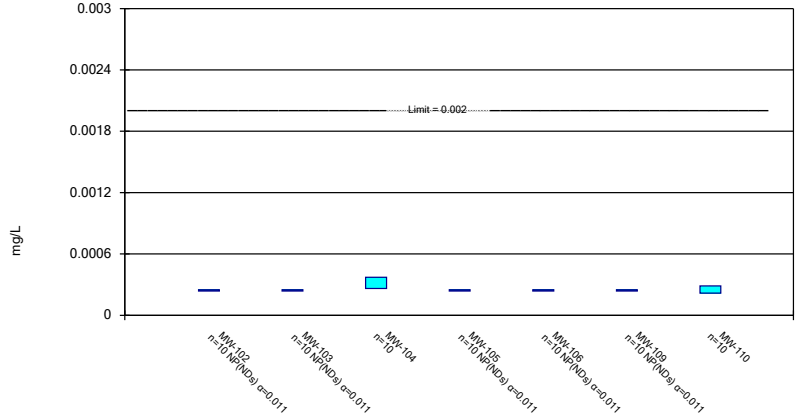
Constituent: Selenium Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist 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: Thallium Analysis Run 10/14/2018 5:09 PM View: GWPS - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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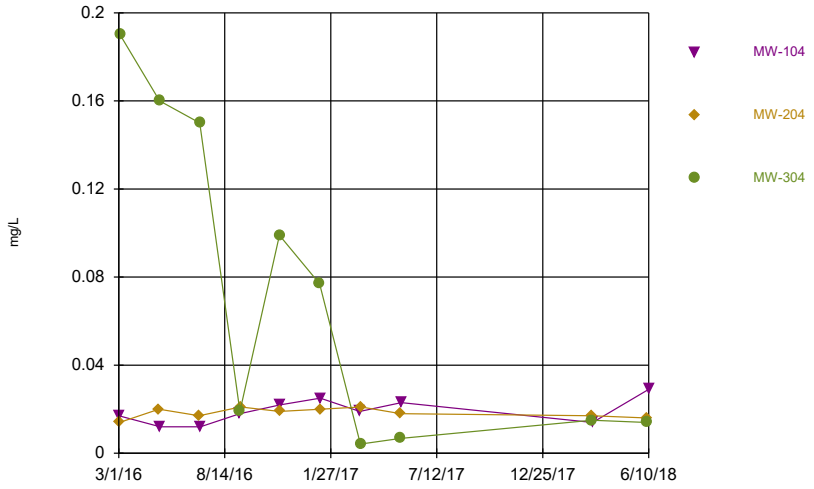
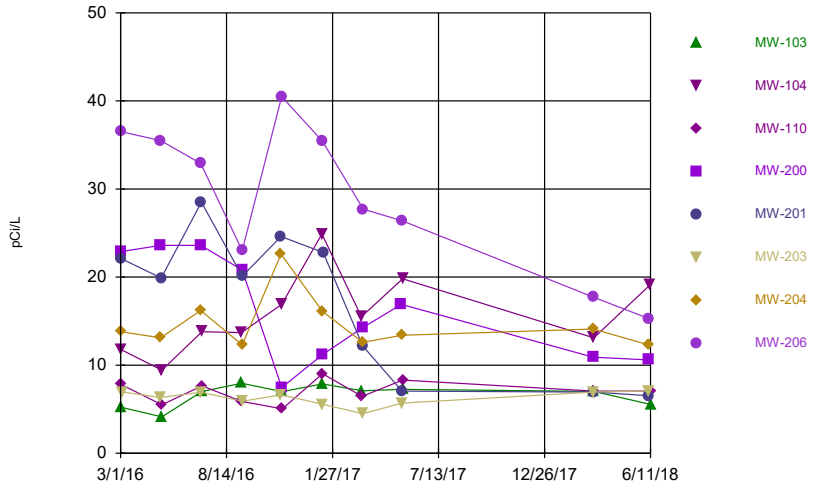
Cobalt



Time Series Analysis Run 10/14/2018 5:15 PM View: Time Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

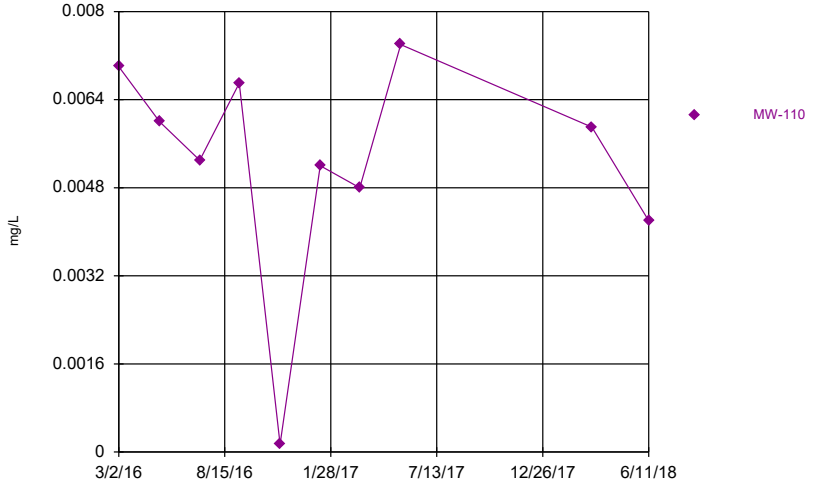
Combined Radium 226 + 228



Time Series Analysis Run 10/14/2018 5:15 PM View: Time Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

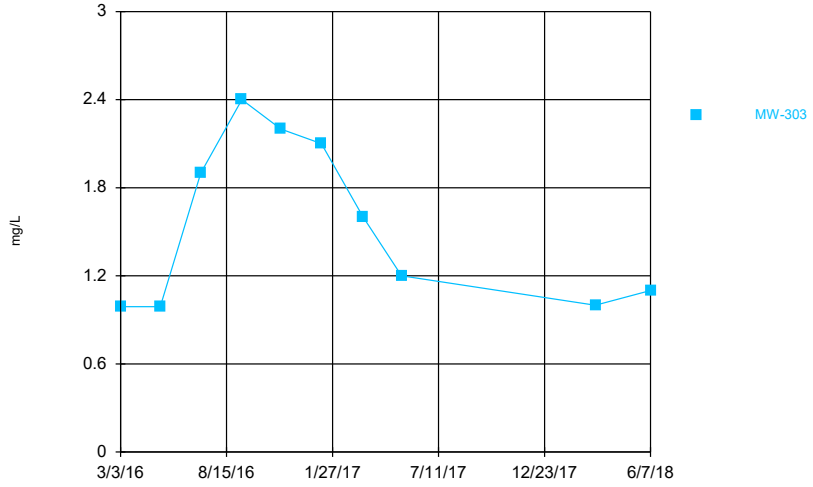
Mercury



Time Series Analysis Run 10/14/2018 5:15 PM View: Time Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Molybdenum



Time Series Analysis Run 10/14/2018 5:15 PM View: Time Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Time Series

Constituent: Cobalt (mg/L) Analysis Run 10/14/2018 5:16 PM View: Time Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-104	MW-204	MW-304
3/1/2016	0.017		
3/2/2016		0.014	
3/3/2016			0.19
5/3/2016		0.02	
5/4/2016			0.16
5/5/2016	0.012		
7/5/2016		0.017	
7/6/2016			0.15
7/7/2016	0.012		
9/7/2016	0.018		0.019
9/8/2016		0.021	
11/8/2016		0.019	0.099
11/9/2016	0.022		
1/10/2017			0.077
1/11/2017	0.025		
1/12/2017		0.02	
3/14/2017	0.019		
3/15/2017			0.0042
3/16/2017		0.021	
5/16/2017			0.0067
5/17/2017		0.018	
5/18/2017	0.023		
3/13/2018		0.017	0.015
3/14/2018	0.014		
6/7/2018			0.014
6/8/2018		0.016	
6/10/2018	0.029		

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 10/14/2018 5:16 PM View: Time Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-103	MW-104	MW-110	MW-200	MW-201	MW-203	MW-204	MW-206
3/1/2016	5.24	11.8						
3/2/2016			7.8	22.9	22.1		13.8	36.5
3/3/2016						6.96		
5/3/2016				23.6		6.33	13.1	35.5
5/4/2016					19.9			
5/5/2016	4.13	9.43	5.51					
7/5/2016				23.6		6.93	16.2	32.9
7/6/2016					28.5			
7/7/2016	7.01	13.8	7.65					
9/7/2016	7.94	13.7	5.9					
9/8/2016				20.8	20.1	5.91	12.3	23
11/8/2016					24.6	6.63	22.6	
11/9/2016		16.9		7.46				40.5
11/10/2016	7		5.04					
1/11/2017		24.9						
1/12/2017	7.87		9.04	11.2		5.56	16.1	35.4
1/13/2017					22.8			
3/14/2017		15.5						
3/15/2017	7.1		6.46					
3/16/2017					12.2	4.49	12.6	
3/17/2017				14.3				27.7
5/16/2017				16.9				
5/17/2017					7.05	5.7	13.4	26.4
5/18/2017	7.26	19.8	8.31					
3/13/2018				10.9		6.95	14.1	
3/14/2018	7.02	13.1	7.06		6.95			17.7
6/8/2018				10.6		7.07	12.3	15.3
6/9/2018					6.52			
6/10/2018		19.1						
6/11/2018	5.54		7.06					

Time Series

Constituent: Mercury (mg/L) Analysis Run 10/14/2018 5:16 PM View: Time Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-110
3/2/2016	0.007
5/5/2016	0.006
7/7/2016	0.0053
9/7/2016	0.0067
11/10/2016	0.00014 (J)
1/12/2017	0.0052
3/15/2017	0.0048
5/18/2017	0.0074
3/14/2018	0.0059
6/11/2018	0.0042

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 10/14/2018 5:16 PM View: Time Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-303
3/3/2016	0.99
5/4/2016	0.99
7/6/2016	1.9
9/8/2016	2.4
11/8/2016	2.2
1/10/2017	2.1
3/16/2017	1.6
5/15/2017	1.2
3/13/2018	1
6/7/2018	1.1

UTL's - App IV

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 4:59 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.0025	60	n/a	n/a	100	n/a	n/a	0.04607	NP Inter(NDs)
Arsenic (mg/L)	0.0013	60	n/a	n/a	86.67	n/a	n/a	0.04607	NP Inter(NDs)
Barium (mg/L)	0.01868	60	0.1122	0.01211	0	None	sqrt(x)	0.05	Inter
Beryllium (mg/L)	0.0025	60	n/a	n/a	100	n/a	n/a	0.04607	NP Inter(NDs)
Cadmium (mg/L)	0.0025	60	n/a	n/a	100	n/a	n/a	0.04607	NP Inter(NDs)
Chromium (mg/L)	0.017	60	n/a	n/a	85	n/a	n/a	0.04607	NP Inter(NDs)
Cobalt (mg/L)	0.0032	60	n/a	n/a	30	n/a	n/a	0.04607	NP Inter(normal...
Combined Radium 226 + 228 (pCi/L)	2.507	60	0.01249	0.4494	5	None	ln(x)	0.05	Inter
Fluoride (mg/L)	0.12	66	n/a	n/a	96.97	n/a	n/a	0.03387	NP Inter(NDs)
Lead (mg/L)	0.0013	60	n/a	n/a	100	n/a	n/a	0.04607	NP Inter(NDs)
Lithium (mg/L)	0.005	59	n/a	n/a	89.83	n/a	n/a	0.04849	NP Inter(NDs)
Mercury (mg/L)	0.0002	60	n/a	n/a	95	n/a	n/a	0.04607	NP Inter(NDs)
Molybdenum (mg/L)	0.015	60	n/a	n/a	95	n/a	n/a	0.04607	NP Inter(NDs)
Selenium (mg/L)	0.0025	60	n/a	n/a	71.67	n/a	n/a	0.04607	NP Inter(normal...
Thallium (mg/L)	0.0005	60	n/a	n/a	100	n/a	n/a	0.04607	NP Inter(NDs)

JUNE 2018 STATISTICAL ANALYSIS - APPENDIX III CONSTITUENTS

Series 100 Interwell Prediction Limit Summary Table - Significant Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:21 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-103	0.05	n/a	6/11/2018	0.26	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-104	0.05	n/a	6/10/2018	12	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-105	0.05	n/a	6/10/2018	2.4	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-106	0.05	n/a	6/10/2018	0.066	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-109	0.05	n/a	6/11/2018	0.11	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-110	0.05	n/a	6/11/2018	4.2	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-103	1.473	n/a	6/11/2018	3.5	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-104	1.473	n/a	6/10/2018	67	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-105	1.473	n/a	6/10/2018	86	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-109	1.473	n/a	6/11/2018	2.6	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-110	1.473	n/a	6/11/2018	30	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-103	6.907	n/a	6/11/2018	8	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-104	6.907	n/a	6/10/2018	190	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-105	6.907	n/a	6/10/2018	140	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-110	6.907	n/a	6/11/2018	140	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Fluoride (mg/L)	MW-104	0.12	n/a	6/10/2018	0.38	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
pH (SU)	MW-104	7.11	4.5	6/10/2018	3.97	Yes	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-103	5	n/a	6/11/2018	34	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-104	5	n/a	6/10/2018	760	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-105	5	n/a	6/10/2018	96	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-109	5	n/a	6/11/2018	10	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-110	5	n/a	6/11/2018	270	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Total Dissolved Solids (mg/L)	MW-103	44	n/a	6/11/2018	96	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-104	44	n/a	6/10/2018	1500	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-105	44	n/a	6/10/2018	560	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-110	44	n/a	6/11/2018	670	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2

Series 100 Interwell Prediction Limit Summary Table - All Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:21 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-102	0.05	n/a	6/11/2018	0.05ND	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-103	0.05	n/a	6/11/2018	0.26	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-104	0.05	n/a	6/10/2018	12	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-105	0.05	n/a	6/10/2018	2.4	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-106	0.05	n/a	6/10/2018	0.066	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-109	0.05	n/a	6/11/2018	0.11	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Boron (mg/L)	MW-110	0.05	n/a	6/11/2018	4.2	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MW-102	1.473	n/a	6/11/2018	0.55	No	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-103	1.473	n/a	6/11/2018	3.5	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-104	1.473	n/a	6/10/2018	67	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-105	1.473	n/a	6/10/2018	86	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-106	1.473	n/a	6/10/2018	0.39	No	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-109	1.473	n/a	6/11/2018	2.6	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-110	1.473	n/a	6/11/2018	30	Yes	66	0.8993	0.1247	0	None	x^(1/3)	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-102	6.907	n/a	6/11/2018	4.9	No	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-103	6.907	n/a	6/11/2018	8	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-104	6.907	n/a	6/10/2018	190	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-105	6.907	n/a	6/10/2018	140	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-106	6.907	n/a	6/10/2018	3.6	No	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-109	6.907	n/a	6/11/2018	6	No	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Chloride (mg/L)	MW-110	6.907	n/a	6/11/2018	140	Yes	66	5.206	0.8892	0	None	No	0.001075	Param Inter 1 of 2
Fluoride (mg/L)	MW-102	0.12	n/a	6/11/2018	0.1ND	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-103	0.12	n/a	6/11/2018	0.1ND	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-104	0.12	n/a	6/10/2018	0.38	Yes	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-105	0.12	n/a	6/10/2018	0.1ND	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-106	0.12	n/a	6/10/2018	0.1ND	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-109	0.12	n/a	6/11/2018	0.1ND	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
Fluoride (mg/L)	MW-110	0.12	n/a	6/11/2018	0.04	No	66	n/a	n/a	96.97	n/a	n/a	0.0004401	NP Inter (NDs) 1 of 2
pH (SU)	MW-102	7.11	4.5	6/11/2018	4.81	No	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
pH (SU)	MW-103	7.11	4.5	6/11/2018	5.02	No	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
pH (SU)	MW-104	7.11	4.5	6/10/2018	3.97	Yes	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
pH (SU)	MW-105	7.11	4.5	6/10/2018	5.96	No	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
pH (SU)	MW-106	7.11	4.5	6/10/2018	4.99	No	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
pH (SU)	MW-109	7.11	4.5	6/11/2018	4.78	No	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
pH (SU)	MW-110	7.11	4.5	6/11/2018	4.77	No	66	n/a	n/a	0	n/a	n/a	0.0008803	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-102	5	n/a	6/11/2018	1.7	No	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-103	5	n/a	6/11/2018	34	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-104	5	n/a	6/10/2018	760	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-105	5	n/a	6/10/2018	96	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-106	5	n/a	6/10/2018	1.4	No	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-109	5	n/a	6/11/2018	10	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Sulfate (mg/L)	MW-110	5	n/a	6/11/2018	270	Yes	65	n/a	n/a	73.85	n/a	n/a	0.0004535	NP Inter (NDs) 1 of 2
Total Dissolved Solids (mg/L)	MW-102	44	n/a	6/11/2018	8	No	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-103	44	n/a	6/11/2018	96	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-104	44	n/a	6/10/2018	1500	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-105	44	n/a	6/10/2018	560	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-106	44	n/a	6/10/2018	6	No	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-109	44	n/a	6/11/2018	26	No	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-110	44	n/a	6/11/2018	670	Yes	66	n/a	n/a	36.36	n/a	n/a	0.0004401	NP Inter (normality) 1 of 2

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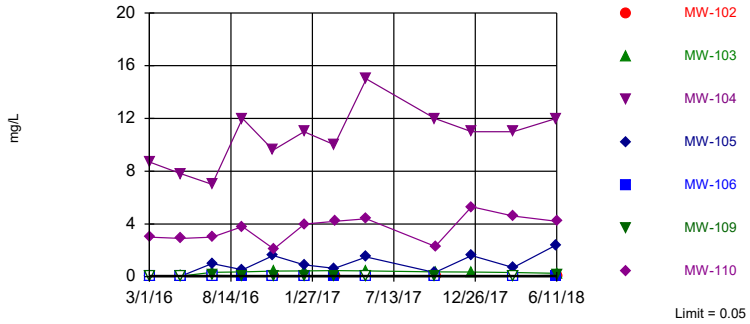
Hollow symbols indicate censored values.

Exceeds Limit: MW-103, MW-104, MW-105, MW-106, MW-109, MW-110

Boron

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 66 background values. 96.97% NDs. Annual per-constituent alpha = 0.006144. Individual comparison alpha = 0.0004401 (1 of 2). Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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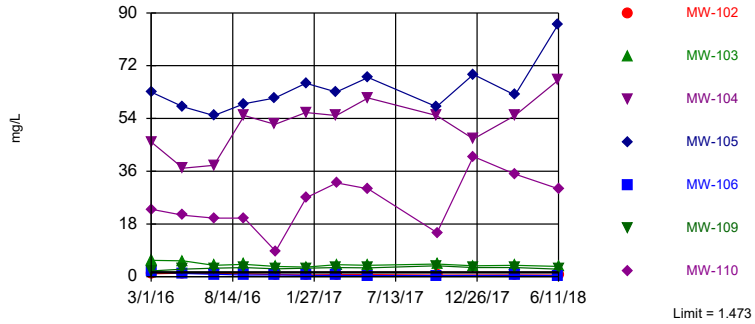
Exceeds Limit: MW-103, MW-104, MW-105, MW-109, MW-110

Calcium

Interwell Parametric



Background Data Summary (based on cube root transformation): Mean=0.8993, Std. Dev.=0.1247, n=66. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.958, critical = 0.948. Kappa = 1.913 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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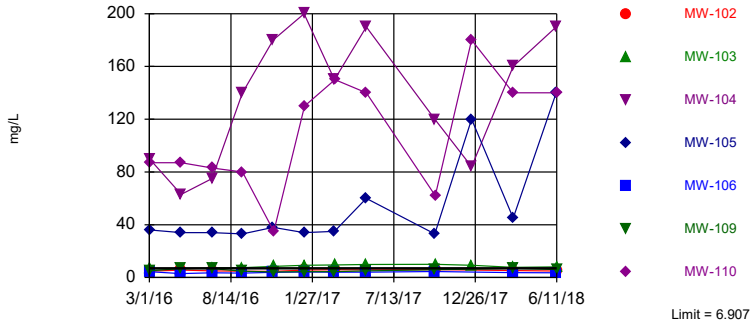
Exceeds Limit: MW-103, MW-104, MW-105, MW-110

Chloride

Interwell Parametric



Background Data Summary: Mean=5.206, Std. Dev.=0.8892, n=66. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9631, critical = 0.948. Kappa = 1.913 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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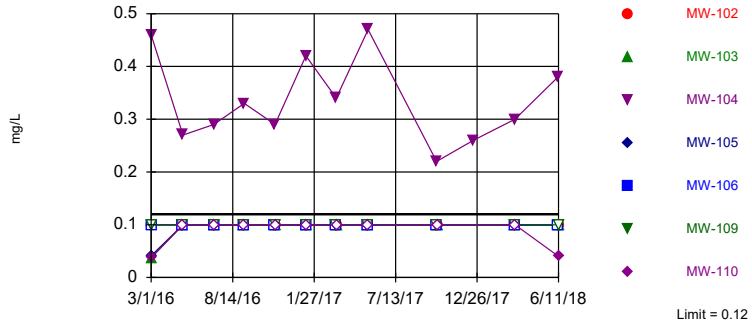
Hollow symbols indicate censored values.

Exceeds Limit: MW-104

Fluoride

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 66 background values. 96.97% NDs. Annual per-constituent alpha = 0.006144. Individual comparison alpha = 0.0004401 (1 of 2). Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-107 (bg)	MW-108 (bg)	MW-101 (bg)	MW-106	MW-104	MW-103	MW-102	MW-306 (bg)
2/29/2016	<0.05	<0.05	<0.05	<0.05					
3/1/2016					<0.05	8.7	<0.05 (*)	<0.05	<0.05
3/2/2016									
5/2/2016	<0.05	<0.05	<0.05						
5/3/2016									<0.05
5/4/2016				<0.05	<0.05 (*)				
5/5/2016						7.8	<0.05 (*)	<0.05	
7/5/2016	<0.05	<0.05	<0.05						<0.05
7/7/2016						7	0.33	<0.05	
7/8/2016				<0.05	<0.05				
9/6/2016	<0.05	<0.05	<0.05	<0.05				<0.05	<0.05
9/7/2016					0.022 (J)	12	0.37		
11/7/2016	<0.05	<0.05	<0.05						<0.05
11/9/2016					<0.05	9.6			
11/10/2016				<0.05			0.43	<0.05	
1/9/2017	<0.05	<0.05	<0.05						<0.05
1/11/2017				<0.05	<0.05	11			
1/12/2017							0.44	<0.05	
3/13/2017	<0.05	<0.05	0.022 (J)						<0.05
3/14/2017				<0.05	0.071	10			
3/15/2017							0.46	<0.05	
5/15/2017	<0.05	<0.05	<0.05						<0.05
5/18/2017				<0.05	<0.05 (*)	15	0.44	<0.05	
10/2/2017	<0.05	<0.05	0.023 (J)						<0.05
10/5/2017				<0.05	<0.05	12			
10/6/2017							0.37	<0.05	
12/19/2017						11 (R)	0.35 (R)		
3/12/2018	<0.05	<0.05	<0.05						<0.05
3/14/2018				<0.05	<0.05	11	0.32	<0.05	
6/5/2018	<0.05	<0.05	<0.05						
6/6/2018									<0.05
6/10/2018				<0.05	0.066	12			
6/11/2018							0.26	<0.05	

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-105	MW-307 (bg)	MW-109	MW-110
2/29/2016				
3/1/2016	<0.05 (*)	<0.05		
3/2/2016			<0.05 (*)	3
5/2/2016		<0.05		
5/3/2016				
5/4/2016				
5/5/2016	<0.05 (*)		<0.05 (*)	2.9
7/5/2016		<0.05		
7/7/2016	1		0.1	3
7/8/2016				
9/6/2016		<0.05		
9/7/2016	0.53		0.073	3.8
11/7/2016		<0.05		
11/9/2016	1.6			
11/10/2016			0.073	2.1
1/9/2017		<0.05		
1/11/2017	0.9			
1/12/2017			0.059	4
3/13/2017		<0.05		
3/14/2017	0.63		0.044 (J)	
3/15/2017				4.2
5/15/2017		<0.05		
5/18/2017	1.5		<0.05 (*)	4.4
10/2/2017		<0.05		
10/5/2017	0.32		0.047 (J)	
10/6/2017				2.3
12/19/2017	1.6 (R)			5.3 (R)
3/12/2018		<0.05		
3/14/2018	0.7		<0.05	4.6
6/5/2018				
6/6/2018		<0.05		
6/10/2018	2.4			
6/11/2018			0.11	4.2

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-107 (bg)	MW-108 (bg)	MW-101 (bg)	MW-106	MW-104	MW-103	MW-102	MW-306 (bg)
2/29/2016	1	0.67	1.4	1 (J)					
3/1/2016					1.8	46	5.6	0.99 (J)	0.6
3/2/2016									
5/2/2016	0.78	0.58	1.1						
5/3/2016									0.55
5/4/2016				0.62	1.1				
5/5/2016						37	5.4	1.2	
7/5/2016	0.65	0.43	0.94						0.53
7/7/2016						38	3.9	1.1	
7/8/2016				0.4	0.82				
9/6/2016	0.7	0.48	1	0.45				1	0.5
9/7/2016					0.57	55	4.2		
11/7/2016	0.8	0.56	1.2						0.68
11/9/2016					0.62	52			
11/10/2016				0.44			3.5	0.73	
1/9/2017	0.74	0.43	1.2						0.56
1/11/2017				0.42	0.44	56			
1/12/2017							3.3	0.63	
3/13/2017	0.78	0.48	1.3						0.62
3/14/2017				0.42	0.46	55			
3/15/2017							4.1	0.72	
5/15/2017	0.76	0.37	1						0.58
5/18/2017				0.38	0.41	61	3.9	0.71	
10/2/2017	0.78	0.47	1.2						0.62
10/5/2017				0.39	0.39	55			
10/6/2017							4.3	0.56	
12/19/2017						47 (R)	3.7 (R)		
3/12/2018	0.88	0.49	1.4						0.59
3/14/2018				0.49	0.47	55	3.9	0.63	
6/5/2018	0.9	0.49	1.2						
6/6/2018									0.59
6/10/2018				0.39	0.39	67			
6/11/2018							3.5	0.55	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-105	MW-307 (bg)	MW-109	MW-110
2/29/2016				
3/1/2016	63	1.5		
3/2/2016			2	23
5/2/2016		0.83		
5/3/2016				
5/4/2016				
5/5/2016	58		2.6	21
7/5/2016		1.6		
7/7/2016	55		2.9	20
7/8/2016				
9/6/2016		1.6		
9/7/2016	59		3.1	20
11/7/2016		1.5		
11/9/2016	61			
11/10/2016			2.7	8.7
1/9/2017		0.98		
1/11/2017	66			
1/12/2017			2.9	27
3/13/2017		0.75		
3/14/2017	63		3.1	
3/15/2017				32
5/15/2017		0.83		
5/18/2017	68		3	30
10/2/2017		0.83		
10/5/2017	58		3.7	
10/6/2017				15
12/19/2017	69 (R)		3.1 (R)	41 (R)
3/12/2018		0.71		
3/14/2018	62		3.1	35
6/5/2018				
6/6/2018		0.68		
6/10/2018	86			
6/11/2018			2.6	30

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-107 (bg)	MW-108 (bg)	MW-101 (bg)	MW-106	MW-104	MW-103	MW-102	MW-306 (bg)
2/29/2016	5.3	8.1	7.4	5.4					
3/1/2016					4.4	90	6.6	4.8	5.6
3/2/2016									
5/2/2016	4.4	6	6.3						
5/3/2016									5.1
5/4/2016				4.5	3				
5/5/2016						63	6.5	5.6	
7/5/2016	4.2	5.2	4.8						4.7
7/7/2016						75	7.3	5	
7/8/2016				4.9	3.5				
9/6/2016	4.3	5.5	6	4.3				4.8	4.4
9/7/2016					3.3	140	7.4		
11/7/2016	4.2	5.4	5.7						4.6
11/9/2016					3.9	180			
11/10/2016				4.5			8.4	4.7	
1/9/2017	5.3	6.1	6.8						5.3
1/11/2017				5.3	4.1	200			
1/12/2017							9.2	5.6	
3/13/2017	5.2	5.5	6.8						5.6
3/14/2017				5.5	4	150			
3/15/2017							9.5	5.9	
5/15/2017	4.8	4.7	6.1						5.2
5/18/2017				5	4	190	9.9	5.7	
10/2/2017	5.5	6.1	6						5.5
10/5/2017				5.6	4.5	120			
10/6/2017							10	6	
12/19/2017						84 (R)	9.3 (R)		
3/12/2018	5.3	6.1	5.9						5.6
3/14/2018				5.2	3.7	160	7.7	5.2	
6/5/2018	5.3	5.5	6.5						
6/6/2018									5.6
6/10/2018				5.2	3.6	190			
6/11/2018							8	4.9	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-105	MW-307 (bg)	MW-109	MW-110
2/29/2016				
3/1/2016	36	4		
3/2/2016			5	87
5/2/2016		3.6		
5/3/2016				
5/4/2016				
5/5/2016	34		6.8	87
7/5/2016		3.6		
7/7/2016	34		6.7	83
7/8/2016				
9/6/2016		4		
9/7/2016	33		4.8	80
11/7/2016		4.4		
11/9/2016	38			
11/10/2016			4.2	35
1/9/2017		4.4		
1/11/2017	34			
1/12/2017			4.4	130
3/13/2017		4.1		
3/14/2017	35		4.4	
3/15/2017				150
5/15/2017		3.7		
5/18/2017	60		5	140
10/2/2017		4.8		
10/5/2017	33		5.8	
10/6/2017				62
12/19/2017	120 (R)			180 (R)
3/12/2018		4		
3/14/2018	45		6.9	140
6/5/2018				
6/6/2018		4.1		
6/10/2018	140			
6/11/2018			6	140

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-108 (bg)	MW-107 (bg)	MW-101 (bg)	MW-106	MW-105	MW-306 (bg)	MW-103	MW-307 (bg)
2/29/2016	<0.1	<0.1	<0.1	<0.1					
3/1/2016					<0.1	0.041 (J)	<0.1	0.037 (J)	0.033 (J)
3/2/2016									
5/2/2016	<0.1	<0.1	<0.1						<0.1
5/3/2016							<0.1		
5/4/2016				<0.1	<0.1				
5/5/2016						<0.1		<0.1	
7/5/2016	<0.1	<0.1	<0.1				<0.1		<0.1
7/7/2016						<0.1		<0.1	
7/8/2016				<0.1	<0.1				
9/6/2016	<0.1	<0.1	<0.1	<0.1			<0.1		<0.1
9/7/2016					<0.1	<0.1		<0.1	
11/7/2016	<0.1	<0.1	<0.1				<0.1		<0.1
11/9/2016					<0.1	<0.1			
11/10/2016				<0.1				<0.1	
1/9/2017	<0.1	<0.1	<0.1				<0.1		<0.1
1/11/2017				<0.1	<0.1	<0.1			
1/12/2017								<0.1	
3/13/2017	<0.1	<0.1	<0.1				<0.1		<0.1
3/14/2017				<0.1	<0.1	<0.1			
3/15/2017								<0.1	
5/15/2017	<0.1	<0.1	<0.1				<0.1		<0.1
5/18/2017				<0.1	<0.1	<0.1		<0.1	
10/2/2017	<0.1	<0.1	<0.1				<0.1		<0.1
10/5/2017				<0.1	<0.1	<0.1			
10/6/2017								<0.1	
12/19/2017									
3/12/2018	<0.1	<0.1	<0.1				<0.1		<0.1
3/14/2018				0.12	<0.1	<0.1		<0.1	
6/5/2018	<0.1	<0.1	<0.1						
6/6/2018							<0.1		<0.1
6/10/2018				<0.1	<0.1	<0.1			
6/11/2018								<0.1	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-102	MW-104	MW-110	MW-109
2/29/2016				
3/1/2016	<0.1	0.46		
3/2/2016			0.039 (J)	<0.1
5/2/2016				
5/3/2016				
5/4/2016				
5/5/2016	<0.1	0.27	<0.1	<0.1
7/5/2016				
7/7/2016	<0.1	0.29	<0.1	<0.1
7/8/2016				
9/6/2016	<0.1			
9/7/2016		0.33	<0.1	<0.1
11/7/2016				
11/9/2016		0.29		
11/10/2016	<0.1		<0.1	<0.1
1/9/2017				
1/11/2017		0.42		
1/12/2017	<0.1		<0.1	<0.1
3/13/2017				
3/14/2017		0.34		<0.1
3/15/2017	<0.1		<0.1	
5/15/2017				
5/18/2017	<0.1	0.47	<0.1	<0.1
10/2/2017				
10/5/2017		0.22		<0.1
10/6/2017	<0.1		<0.1	
12/19/2017		0.26 (R)		
3/12/2018				
3/14/2018	<0.1	0.3	<0.1	<0.1
6/5/2018				
6/6/2018				
6/10/2018		0.38		
6/11/2018	<0.1		0.04 (J)	<0.1

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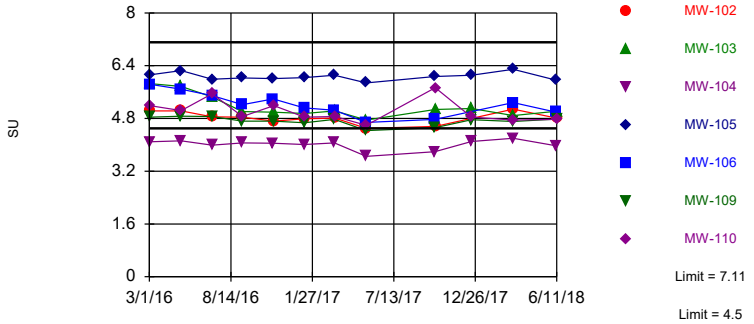
Exceeds Limits: MW-104

pH

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 66 background values. Annual per-constituent alpha = 0.01229. Individual comparison alpha = 0.0008803 (1 of 2). Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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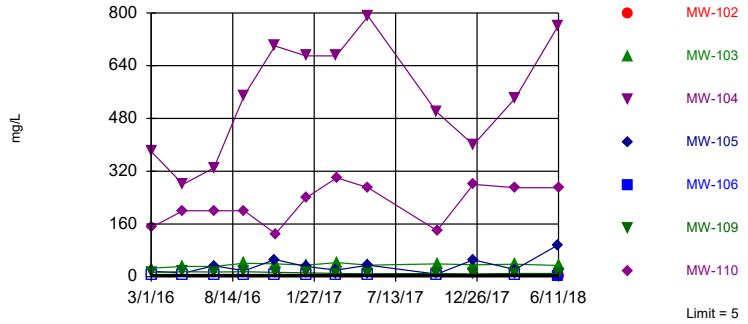
Hollow symbols indicate censored values.

Exceeds Limit: MW-103, MW-104, MW-105, MW-109, MW-110

Sulfate

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 65 background values. 73.85% NDs. Annual per-constituent alpha = 0.006331. Individual comparison alpha = 0.0004535 (1 of 2). Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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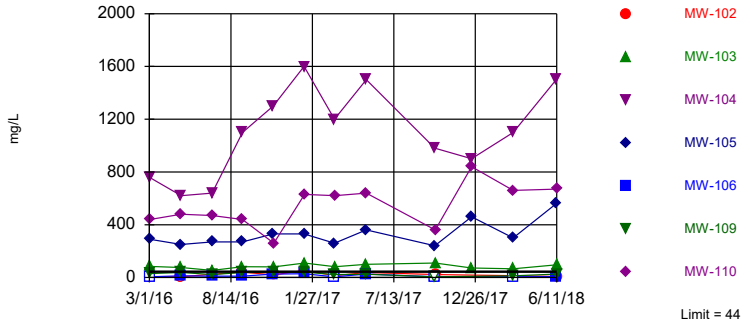
Hollow symbols indicate censored values.

Exceeds Limit: MW-103, MW-104, MW-105, MW-110

Total Dissolved Solids

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 66 background values. 36.36% NDs. Annual per-constituent alpha = 0.006144. Individual comparison alpha = 0.0004401 (1 of 2). Comparing 7 points to limit.

Prediction Limit Analysis Run 10/14/2018 5:19 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-107 (bg)	MW-108 (bg)	MW-101 (bg)	MW-106	MW-104	MW-103	MW-102	MW-306 (bg)
2/29/2016	5.11	5.11	4.9	5.26					
3/1/2016					5.84	4.09	5.86	5.03	5.08
3/2/2016									
5/2/2016	4.76	4.77	4.69						
5/3/2016									5.14
5/4/2016				5.1	5.69				
5/5/2016						4.12	5.77	5.03	
7/5/2016	5.12	5.48	7.11						5.38
7/7/2016						3.99	5.45	4.85	
7/8/2016				4.96	5.49				
9/6/2016	5.11	5.12	5.19	5.43				4.84	5.37
9/7/2016					5.22	4.06	5.01		
11/7/2016	4.76	4.73	4.64						4.92
11/9/2016					5.39	4.05			
11/10/2016				4.89			4.99	4.72	
1/9/2017	4.99	5	4.94						5.05
1/11/2017				4.87	5.12	4.01			
1/12/2017							4.95	4.79	
3/13/2017	4.57	4.74	4.63						4.87
3/14/2017				4.71	5.05	4.06			
3/15/2017							5.03	4.81	
5/15/2017	4.6	4.63	4.52						4.69
5/18/2017				4.5	4.68	3.65	4.75	4.5	
10/2/2017	4.64	4.63	4.54						4.88
10/5/2017				4.63	4.77	3.79			
10/6/2017							5.07	4.56	
12/19/2017						4.1 (R)	5.1 (R)		
3/12/2018	4.85	4.81	4.81						5.07
3/14/2018				5.14	5.28	4.2	4.89	5.08	
6/5/2018	4.92	5.04	4.9						
6/6/2018									5.09
6/10/2018				5.12	4.99	3.97			
6/11/2018							5.02	4.81	

Prediction Limit

Constituent: pH (SU) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-105	MW-307 (bg)	MW-109	MW-110
2/29/2016				
3/1/2016	6.12	6.37		
3/2/2016			4.84	5.19
5/2/2016		5.6		
5/3/2016				
5/4/2016				
5/5/2016	6.25		4.87	5.04
7/5/2016		6.29		
7/7/2016	5.99		4.86	5.55
7/8/2016				
9/6/2016		6.42		
9/7/2016	6.03		4.72	4.86
11/7/2016		5.75		
11/9/2016	6.01			
11/10/2016			4.72	5.19
1/9/2017		5.98		
1/11/2017	6.04			
1/12/2017			4.67	4.84
3/13/2017		5.81		
3/14/2017	6.11		4.77	
3/15/2017				4.86
5/15/2017		5.42		
5/18/2017	5.88		4.43	4.59
10/2/2017		5.63		
10/5/2017	6.07		4.52	
10/6/2017				5.73
12/19/2017	6.11 (R)		4.76 (R)	4.84 (R)
3/12/2018		5.6		
3/14/2018	6.29		4.71	4.75
6/5/2018				
6/6/2018		5.58		
6/10/2018	5.96			
6/11/2018			4.78	4.77

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-107 (bg)	MW-108 (bg)	MW-101 (bg)	MW-105	MW-104	MW-103	MW-306 (bg)	MW-102
2/29/2016	<5	<5	1.6 (J)	<5					
3/1/2016					17	380	26	<5	<5
3/2/2016									
5/2/2016	15 (o)	<5	2.1 (J)						
5/3/2016								<5	
5/4/2016				<5					
5/5/2016					11	280	31		<5
7/5/2016	<5	<5	2 (J)					<5	
7/7/2016					33	330	31		<5
7/8/2016				<5					
9/6/2016	<5	<5	1.8 (J)	<5				<5	<5
9/7/2016					18	550	41		
11/7/2016	<5	<5	1.7 (J)					<5	
11/9/2016					52	700			
11/10/2016				<5			39		<5
1/9/2017	<5	2.6 (J)	1.5 (J)					<5	
1/11/2017				<5	31	670			
1/12/2017							35		<5
3/13/2017	2.5 (J)	<5	2.2 (J)					<5	
3/14/2017				<5	20	670			
3/15/2017							43		<5 (*)
5/15/2017	<5	<5	1.9 (J)					<5	
5/18/2017				<5 (X)	35	790	35		<5 (X)
10/2/2017	<5	<5	3.4 (J)					1.5 (J)	
10/5/2017				<5	7.7	500			
10/6/2017							39		<5
12/19/2017					51 (R)	400 (R)	36 (R)		
3/12/2018	<5	<5	2.6 (J)					<5	
3/14/2018				<5	22	540	38		<5
6/5/2018	<5	<5	2.6 (J)						
6/6/2018								<5	
6/10/2018				1.5 (J)	96	760			
6/11/2018							34		1.7 (J)

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-307 (bg)	MW-106	MW-110	MW-109
2/29/2016				
3/1/2016	<5	<5		
3/2/2016			150	13
5/2/2016	<5			
5/3/2016				
5/4/2016		<5		
5/5/2016			200	15
7/5/2016	<5			
7/7/2016			200	14
7/8/2016		<5		
9/6/2016	3.7 (J)			
9/7/2016		<5	200	15
11/7/2016	<5			
11/9/2016		<5		
11/10/2016			130	13
1/9/2017	<5			
1/11/2017		<5		
1/12/2017			240	12
3/13/2017	<5			
3/14/2017		<5		10 (V)
3/15/2017			300	
5/15/2017	<5			
5/18/2017		<5 (X)	270	8.7
10/2/2017	1.7 (J)			
10/5/2017		<5		9.8
10/6/2017			140	
12/19/2017			280 (R)	8.4 (R)
3/12/2018	<5			
3/14/2018		<5	270	9.7
6/5/2018				
6/6/2018	<5			
6/10/2018		1.4 (J)		
6/11/2018			270	10

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-100 (bg)	MW-107 (bg)	MW-108 (bg)	MW-101 (bg)	MW-106	MW-104	MW-103	MW-102	MW-306 (bg)
2/29/2016	20	<5	12	20					
3/1/2016					<5	760	84	<5	10
3/2/2016									
5/2/2016	<5	<5	6						
5/3/2016									<5
5/4/2016				6	12				
5/5/2016						620	76	<5	
7/5/2016	12	14	<5						<5
7/7/2016						640	54	24	
7/8/2016				6	10				
9/6/2016	36	30	38	36				40	36
9/7/2016					10	1100	82		
11/7/2016	18	8	<5						<5
11/9/2016					26	1300			
11/10/2016				16			80	20	
1/9/2017	4 (J)	<5	14						<5
1/11/2017				38	28	1600			
1/12/2017							110	54	
3/13/2017	6	<5	8						22
3/14/2017				<5	<5	1200			
3/15/2017							82	14	
5/15/2017	<5	<5	<5						6
5/18/2017				10	26	1500	100	38	
10/2/2017	<5	<5	6						16
10/5/2017				<5	<5	980			
10/6/2017							110	22	
12/19/2017						900 (R)	72 (R)		
3/12/2018	18	14	<5						<5
3/14/2018				8	<5	1100	66	14	
6/5/2018	10	<5	14						
6/6/2018									20
6/10/2018				8	6	1500			
6/11/2018							96	8	

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 10/14/2018 5:21 PM View: PLs - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

	MW-105	MW-307 (bg)	MW-109	MW-110
2/29/2016				
3/1/2016	290	<5		
3/2/2016			30	440
5/2/2016		36		
5/3/2016				
5/4/2016				
5/5/2016	250		38	480
7/5/2016		<5		
7/7/2016	270		22	470
7/8/2016				
9/6/2016		44		
9/7/2016	270		38	440
11/7/2016		30		
11/9/2016	330			
11/10/2016			38	260
1/9/2017		12		
1/11/2017	330			
1/12/2017			40	630
3/13/2017		20		
3/14/2017	260		22	
3/15/2017				620
5/15/2017		4 (J)		
5/18/2017	360		24	640
10/2/2017		24		
10/5/2017	240		<5	
10/6/2017				360
12/19/2017	460 (R)			840 (R)
3/12/2018		<5		
3/14/2018	300		12	660
6/5/2018				
6/6/2018		16		
6/10/2018	560			
6/11/2018			26	670

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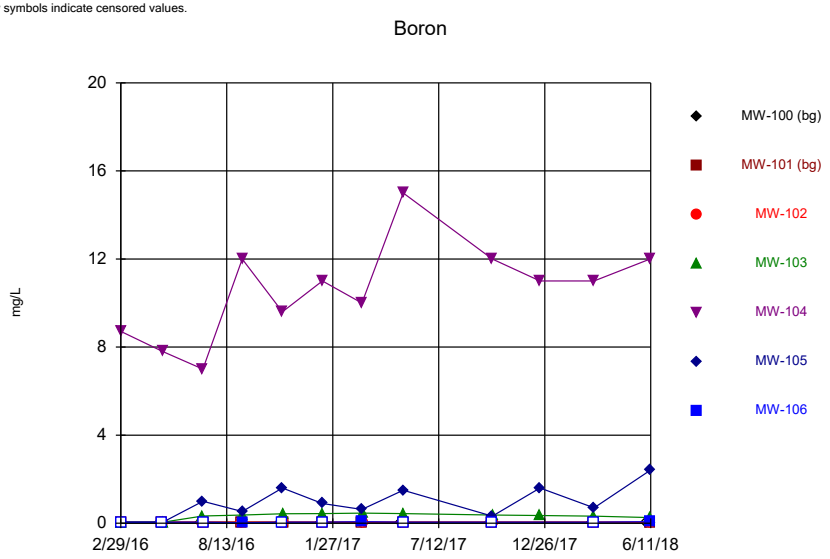
Hollow symbols indicate censored values.



Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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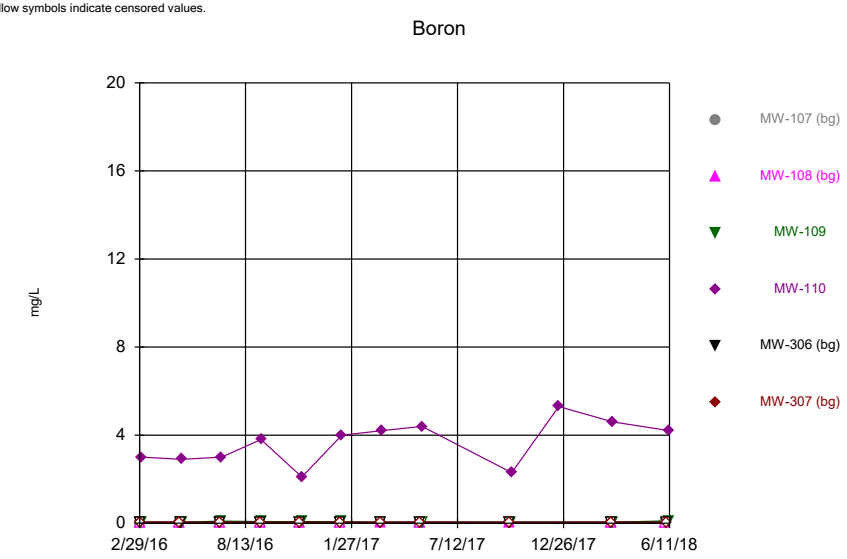

Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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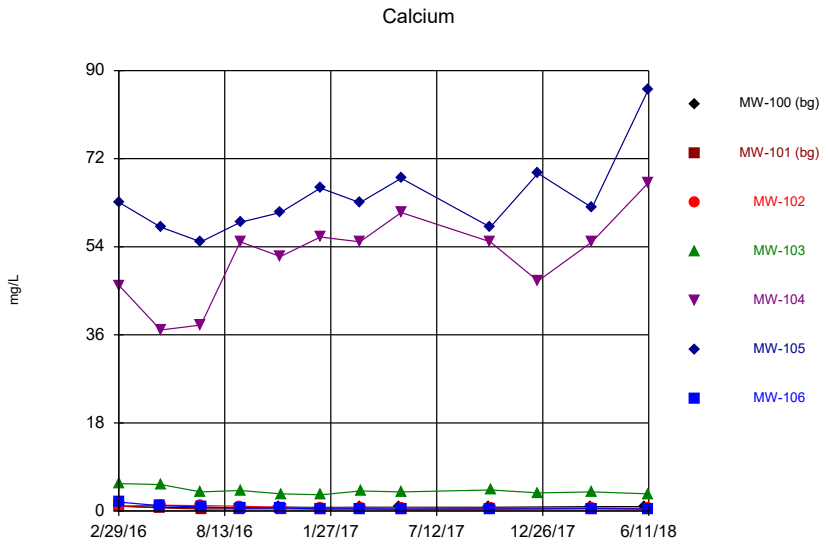

Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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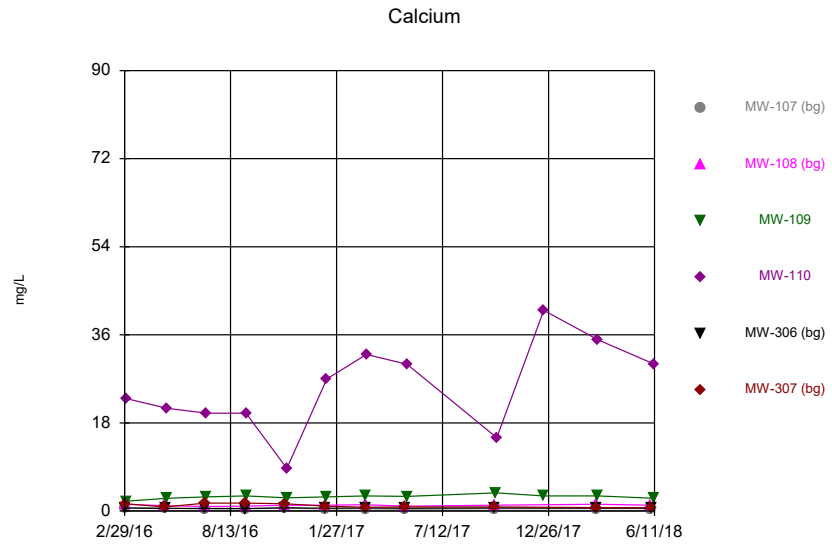

Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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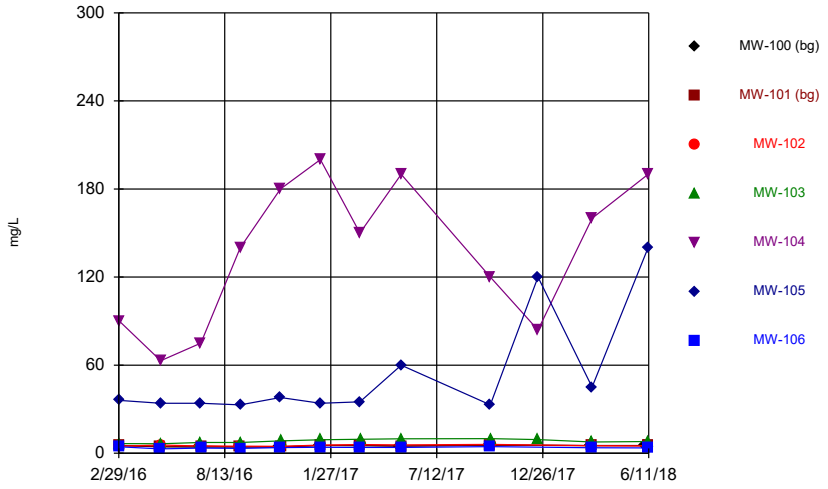
Chloride



Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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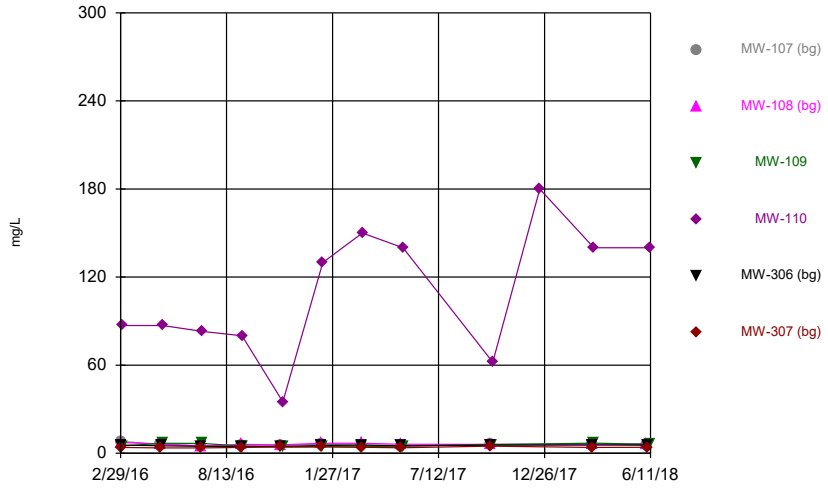
Chloride



Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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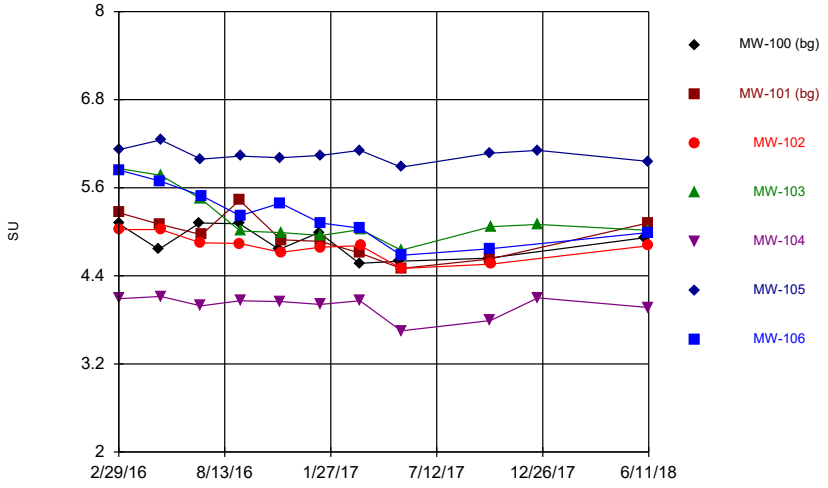
Field pH



Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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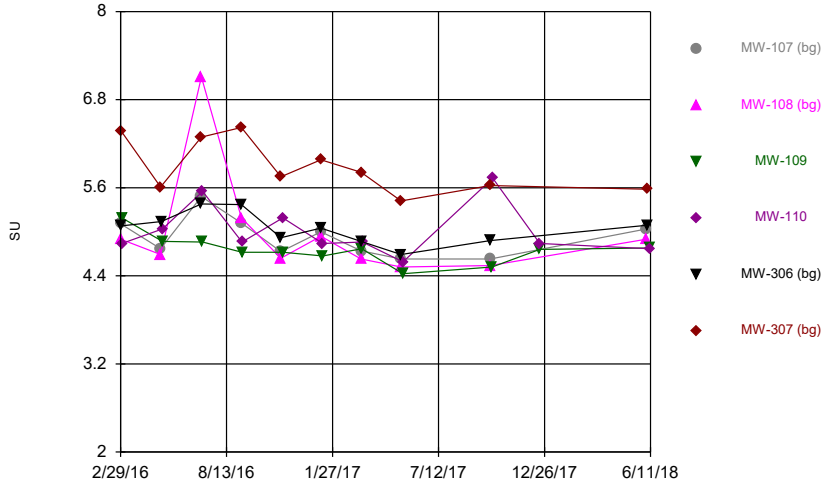
Field pH



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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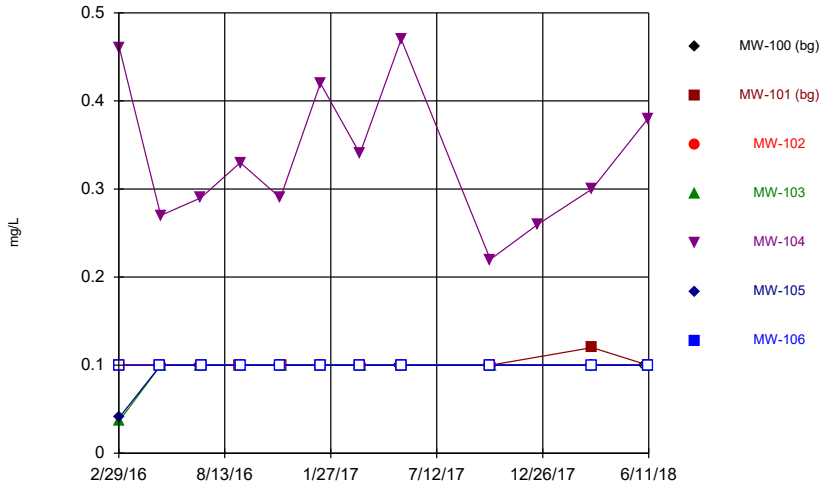
Hollow symbols indicate censored values.

Fluoride



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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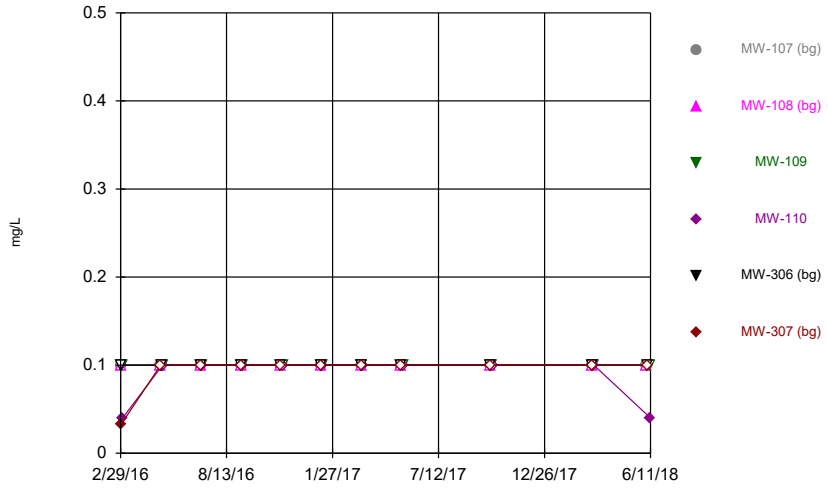
Fluoride



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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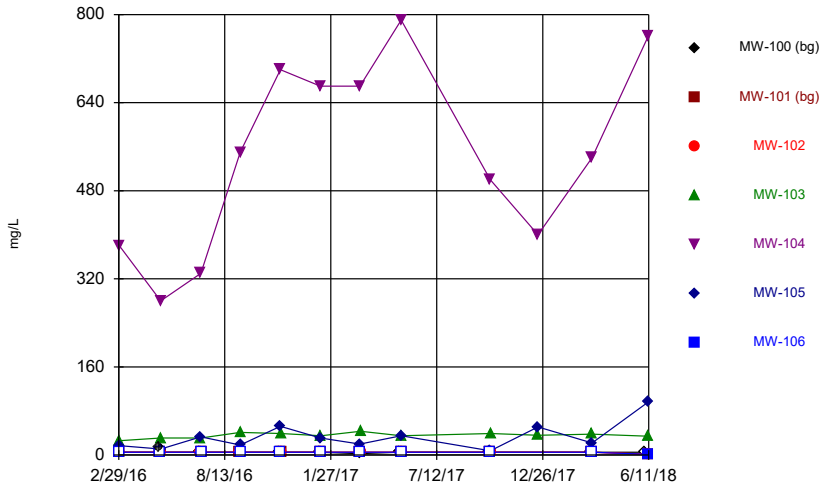
Hollow symbols indicate censored values.

Sulfate



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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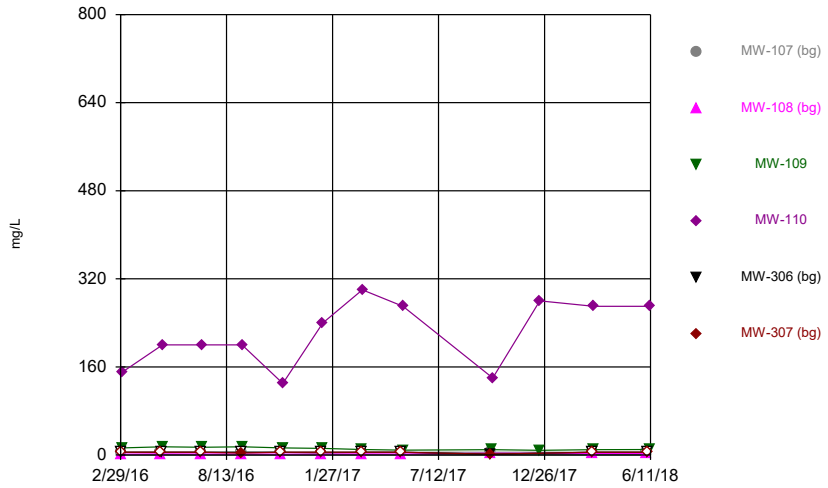
Hollow symbols indicate censored values.

Sulfate



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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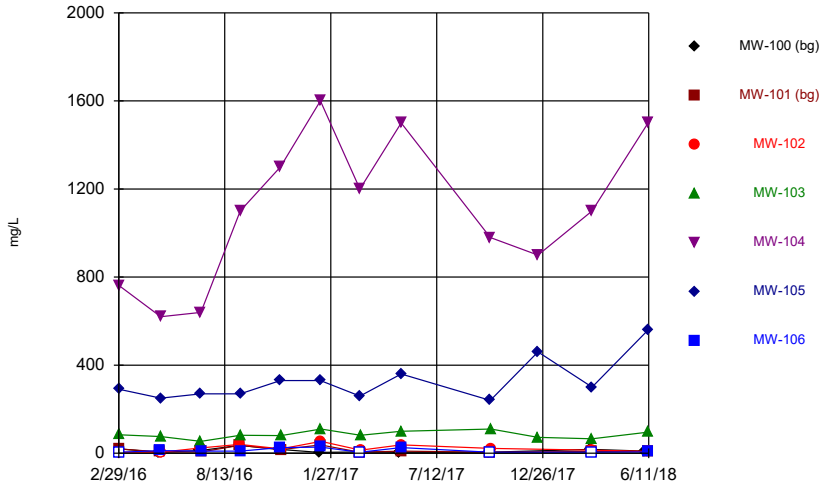
Hollow symbols indicate censored values.

Total Dissolved Solids



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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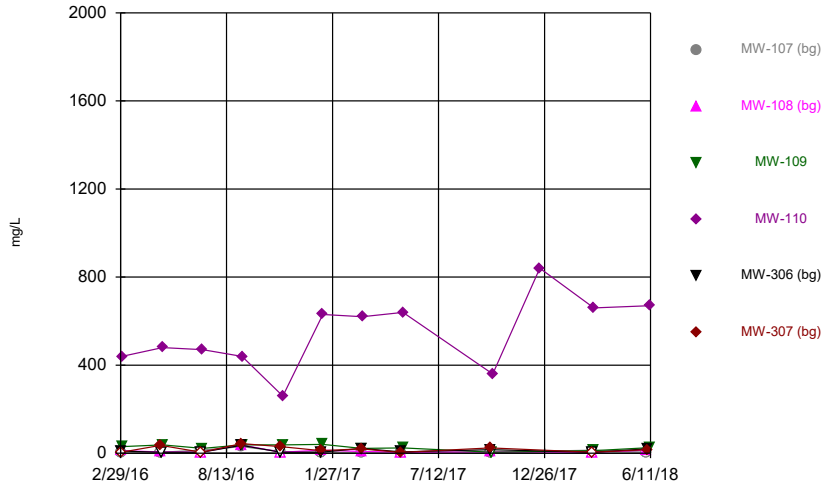
Hollow symbols indicate censored values.

Total Dissolved Solids



Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Series 100 Trend Test Summary Table - Significant Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:26 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	**MW-102**	**-0.2789**	**-42**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MW-106**	**-0.3387**	**-42**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	**MW-106**	**-0.5789**	**-37**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**MW-109**	**-2.875**	**-41**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Series 100 Trend Test Summary Table - All Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:26 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MW-100 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-101 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-102	0	0	34	No	11	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-103	0.004913	3	38	No	12	16.67	n/a	n/a	0.01	NP
Boron (mg/L)	MW-104	1.483	30	38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-105	0.5423	26	38	No	12	16.67	n/a	n/a	0.01	NP
Boron (mg/L)	MW-106	0	13	34	No	11	72.73	n/a	n/a	0.01	NP
Boron (mg/L)	MW-107 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-108 (bg)	0	-7	-34	No	11	81.82	n/a	n/a	0.01	NP
Boron (mg/L)	MW-109	0	-4	-34	No	11	36.36	n/a	n/a	0.01	NP
Boron (mg/L)	MW-110	0.8904	32	38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MW-306 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Boron (mg/L)	MW-307 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-100 (bg)	0.05794	14	34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-101 (bg)	-0.05794	-27	-34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MW-102**	**-0.2789**	**-42**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	MW-103	-0.4581	-26	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-104	8.656	32	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-105	5.835	30	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MW-106**	**-0.3387**	**-42**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	MW-107 (bg)	-0.04443	-12	-34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-108 (bg)	0.06975	11	34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-109	0.2664	26	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-110	6.469	22	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-306 (bg)	0.01911	11	34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MW-307 (bg)	-0.3619	-34	-34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-100 (bg)	0.43	18	34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-101 (bg)	0.1881	15	34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-102	0.178	13	34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-103	1.49	34	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-104	35.24	23	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-105	7.843	26	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-106	0.1708	8	34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-107 (bg)	0	-3	-34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-108 (bg)	-0.1931	-5	-34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-109	0.2885	7	34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-110	29.71	20	38	No	12	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-306 (bg)	0.2692	19	34	No	11	0	n/a	n/a	0.01	NP
Chloride (mg/L)	MW-307 (bg)	0.1941	17	34	No	11	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-100 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-101 (bg)	0	8	34	No	11	90.91	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-102	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-103	0	10	34	No	11	90.91	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-104	0.002967	1	38	No	12	0	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-105	0	10	34	No	11	90.91	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-106	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-107 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-108 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-109	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-110	0	1	34	No	11	81.82	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-306 (bg)	0	0	34	No	11	100	n/a	n/a	0.01	NP
Fluoride (mg/L)	MW-307 (bg)	0	10	34	No	11	90.91	n/a	n/a	0.01	NP
pH (SU)	MW-100 (bg)	-0.1197	-15	-34	No	11	0	n/a	n/a	0.01	NP
pH (SU)	MW-101 (bg)	-0.2653	-19	-34	No	11	0	n/a	n/a	0.01	NP
pH (SU)	MW-102	-0.1426	-19	-34	No	11	0	n/a	n/a	0.01	NP
pH (SU)	MW-103	-0.3183	-26	-38	No	12	0	n/a	n/a	0.01	NP
pH (SU)	MW-104	-0.03974	-9	-38	No	12	0	n/a	n/a	0.01	NP
pH (SU)	MW-105	-0.002774	-1	-38	No	12	0	n/a	n/a	0.01	NP
pH (SU)	**MW-106**	**-0.5789**	**-37**	**-34**	**Yes**	**11**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH (SU)	MW-107 (bg)	-0.1352	-16	-34	No	11	0	n/a	n/a	0.01	NP
pH (SU)	MW-108 (bg)	-0.1111	-16	-34	No	11	0	n/a	n/a	0.01	NP
pH (SU)	MW-109	-0.06583	-21	-38	No	12	0	n/a	n/a	0.01	NP
pH (SU)	MW-110	-0.1703	-29	-38	No	12	0	n/a	n/a	0.01	NP
pH (SU)	MW-306 (bg)	-0.1309	-15	-34	No	11	0	n/a	n/a	0.01	NP
pH (SU)	MW-307 (bg)	-0.3248	-28	-34	No	11	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-100 (bg)	0	-1	-30	No	10	90	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-101 (bg)	0	-10	-34	No	11	90.91	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-102	0	-10	-34	No	11	90.91	n/a	n/a	0.01	NP

Series 100 Trend Test Summary Table - All Results

Plant Crist Client: Southern Company Data: Plant Crist CCR Printed 10/14/2018, 5:26 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Sulfate (mg/L)	MW-103	3.26	15	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-104	130.5	23	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-105	13.61	22	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-106	0	-10	-34	No	11	90.91	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-107 (bg)	0	0	34	No	11	90.91	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-108 (bg)	0.3842	22	34	No	11	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**MW-109**	**-2.875**	**-41**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	MW-110	44.51	26	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-306 (bg)	0	-6	-34	No	11	90.91	n/a	n/a	0.01	NP
Sulfate (mg/L)	MW-307 (bg)	0	-3	-34	No	11	81.82	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-100 (bg)	-1.448	-9	-34	No	11	27.27	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-101 (bg)	-1.466	-10	-34	No	11	18.18	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-102	0	1	34	No	11	18.18	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-103	6.407	6	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-104	247.7	22	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-105	72.31	24	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-106	0	-5	-34	No	11	36.36	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-107 (bg)	0	-5	-34	No	11	63.64	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-108 (bg)	0	-5	-34	No	11	36.36	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-109	-7.578	-15	-34	No	11	9.091	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-110	111.7	31	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-306 (bg)	0	7	34	No	11	45.45	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MW-307 (bg)	-3.244	-8	-34	No	11	27.27	n/a	n/a	0.01	NP

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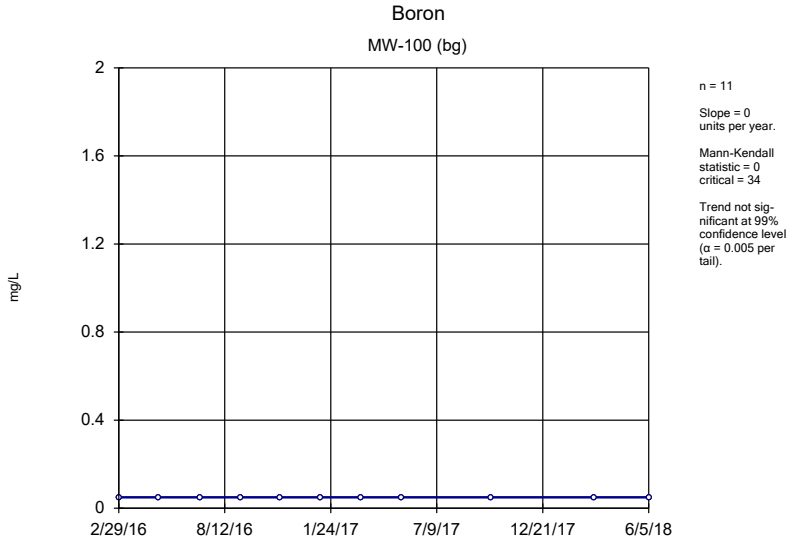
Hollow symbols indicate censored values.



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).

Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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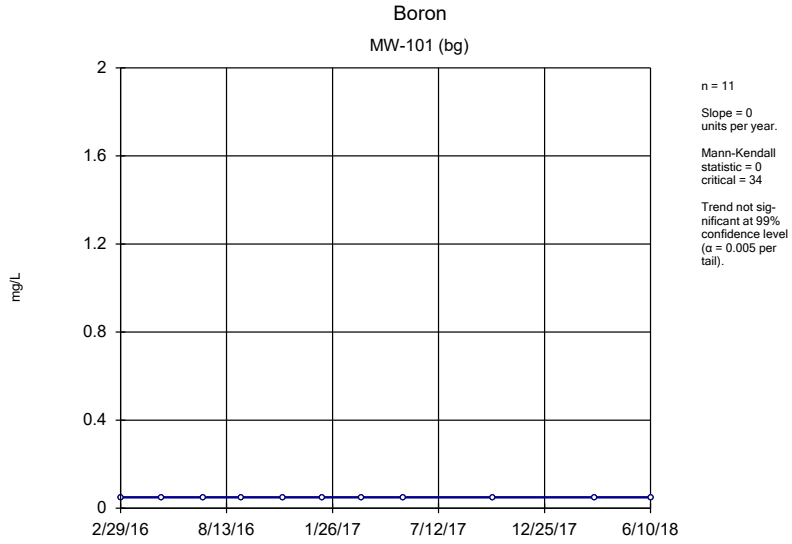

n = 11

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

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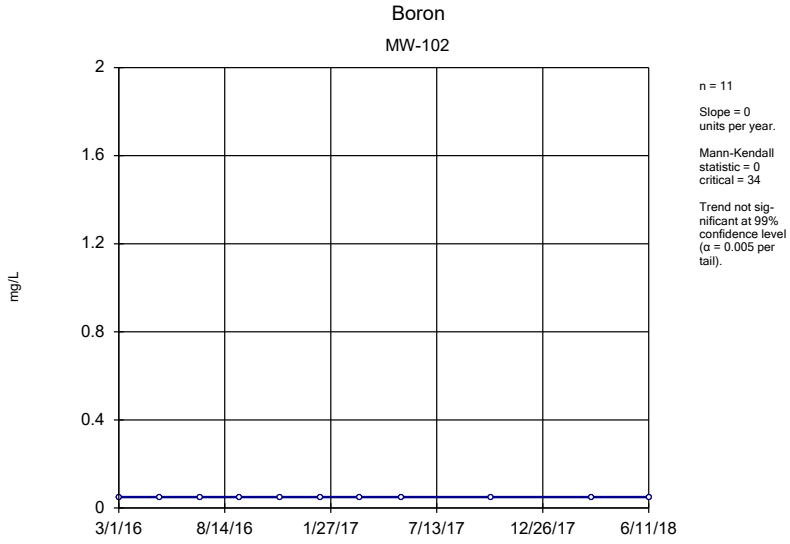

n = 11

Slope = 0 units per year.

Mann-Kendall statistic = 0 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

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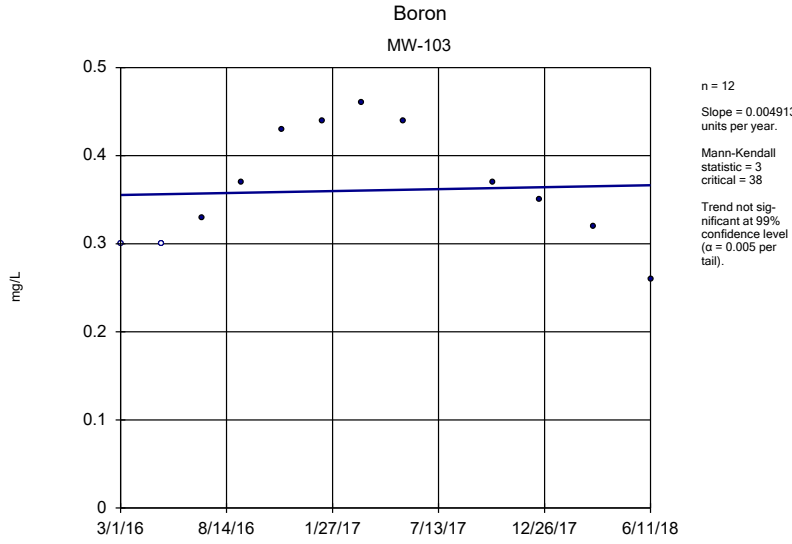

n = 12

Slope = 0.004913 units per year.

Mann-Kendall statistic = 3 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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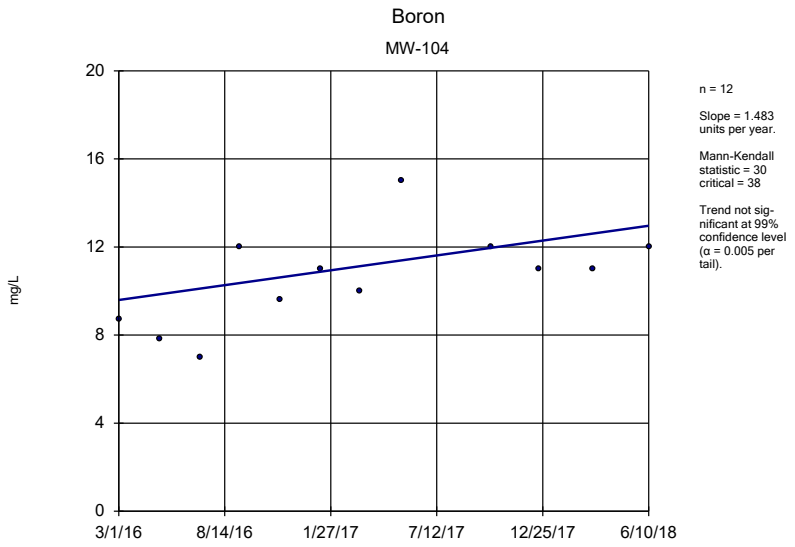

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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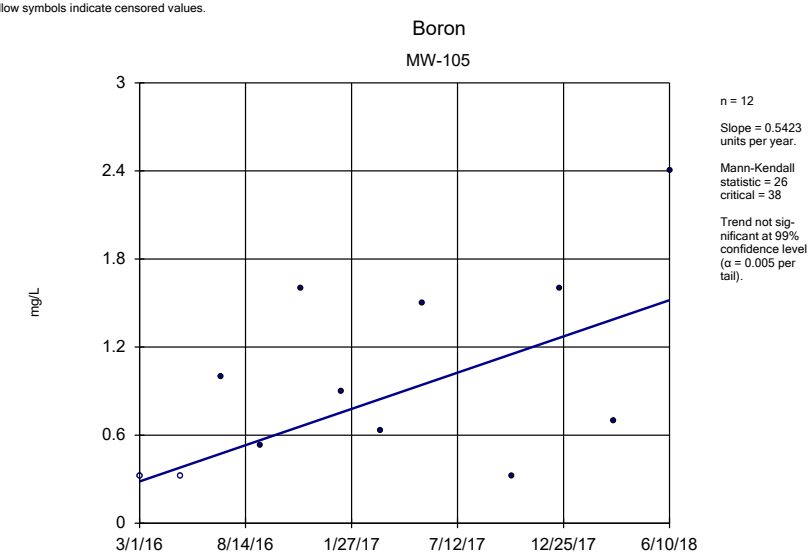

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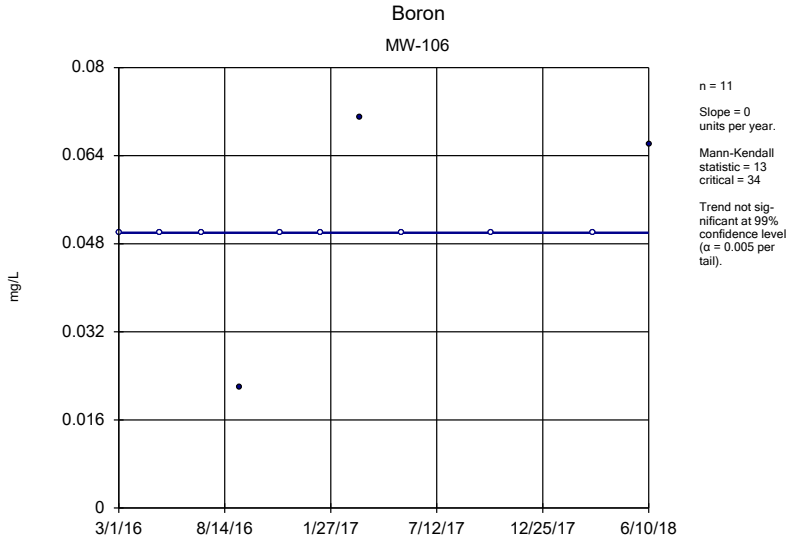

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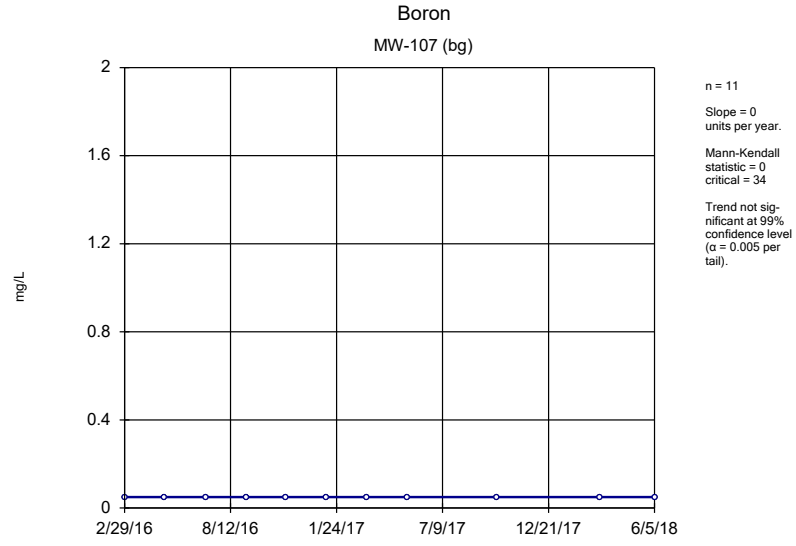

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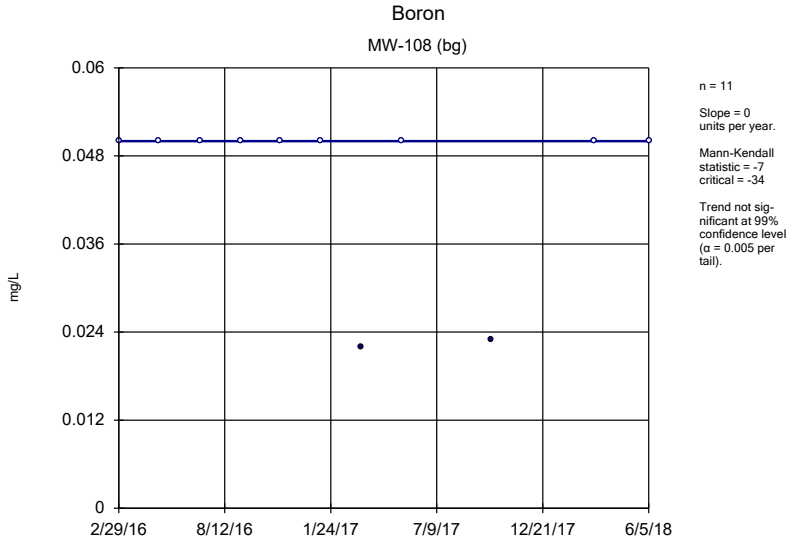

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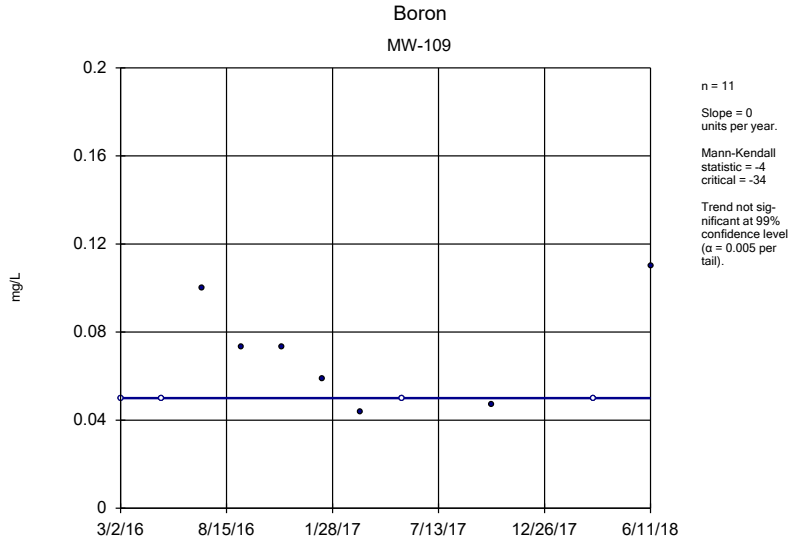

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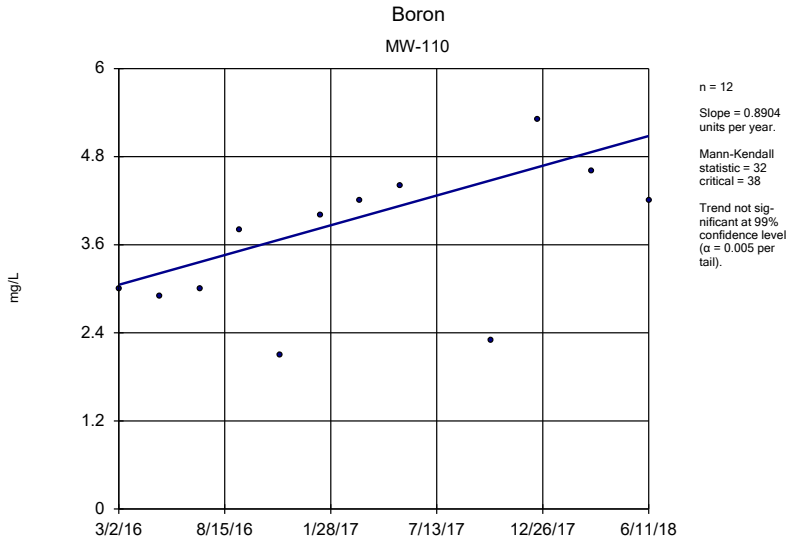

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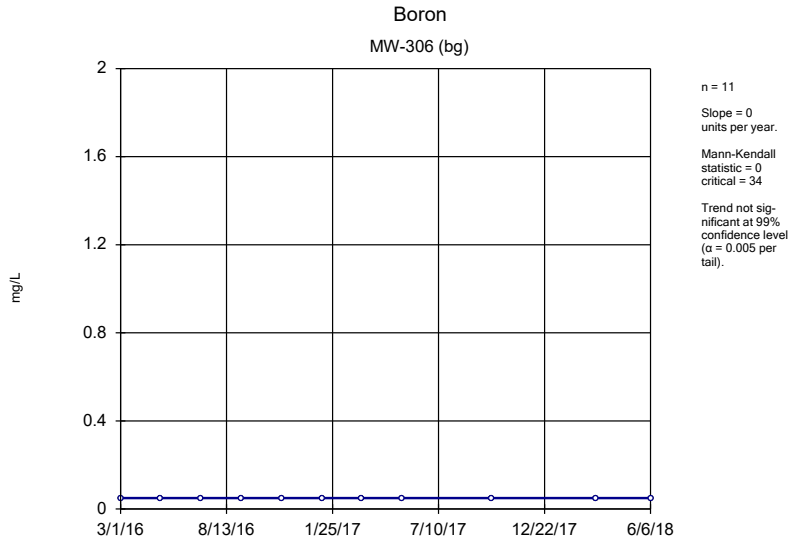

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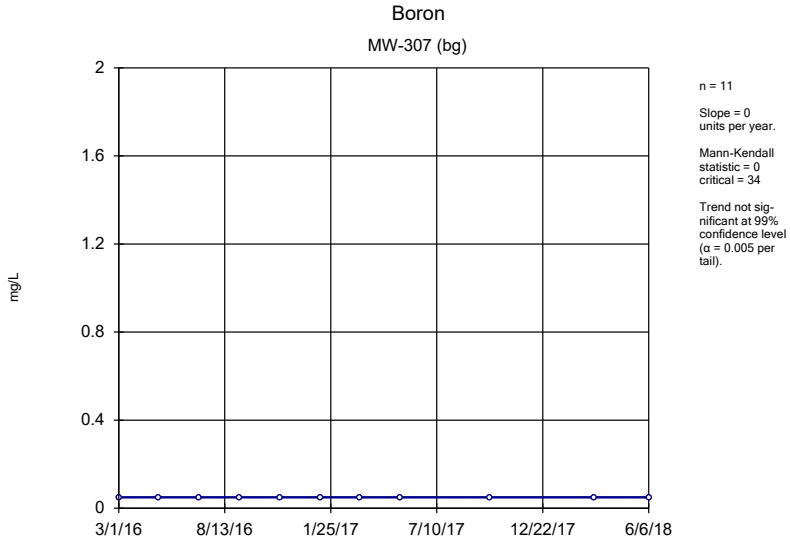

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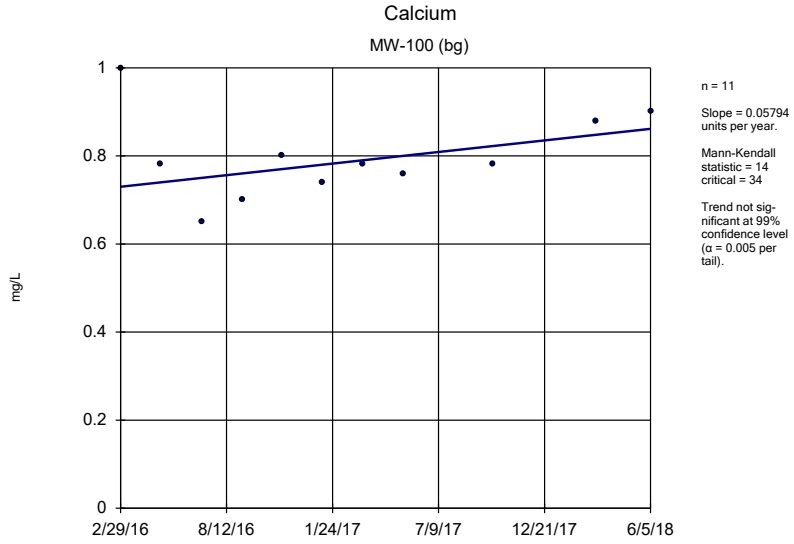

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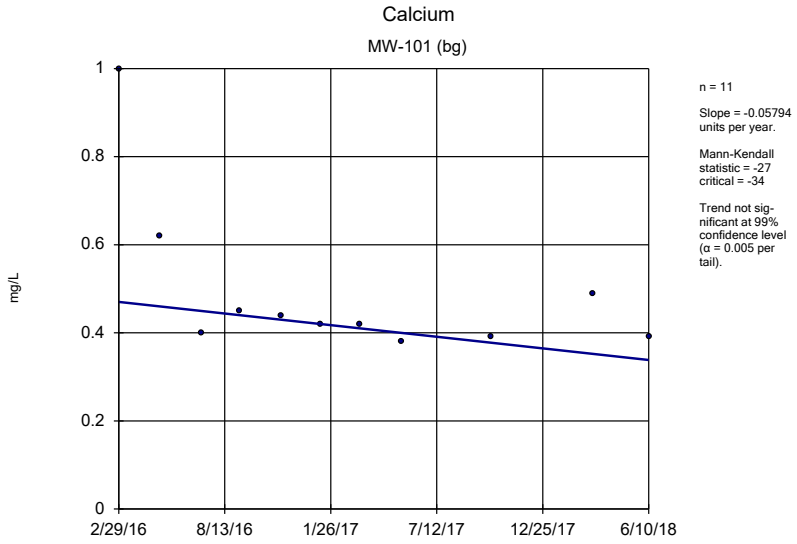

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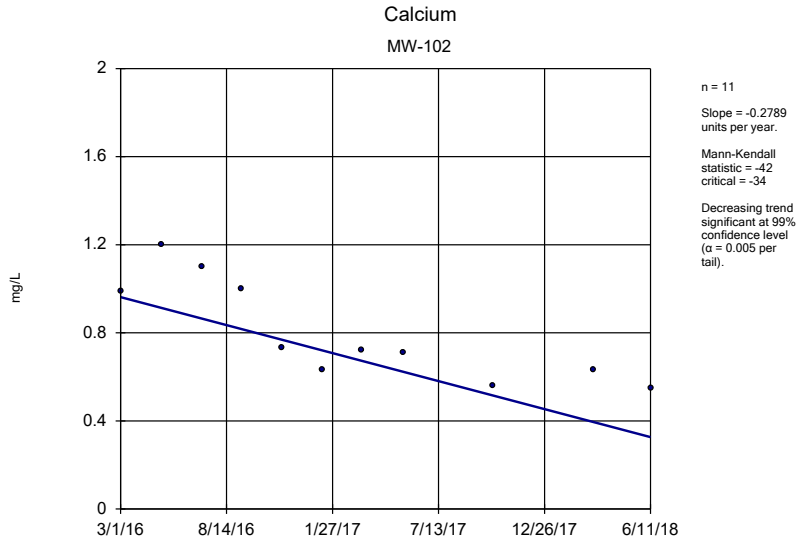

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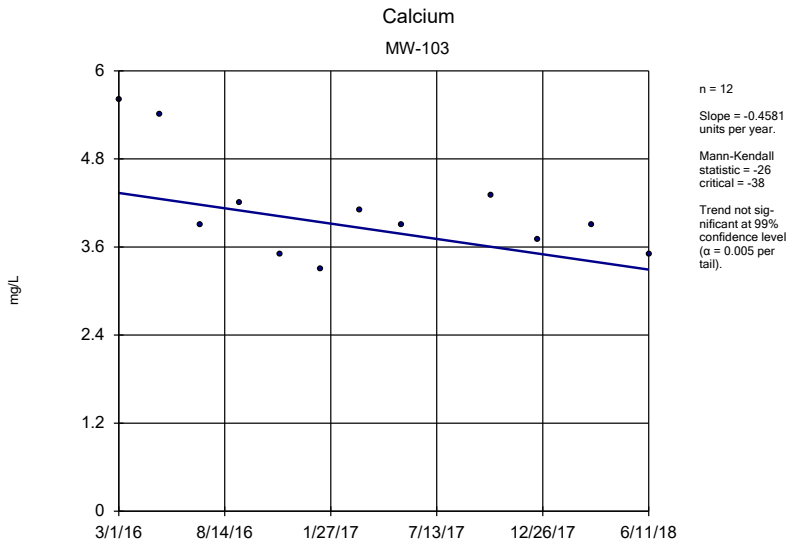

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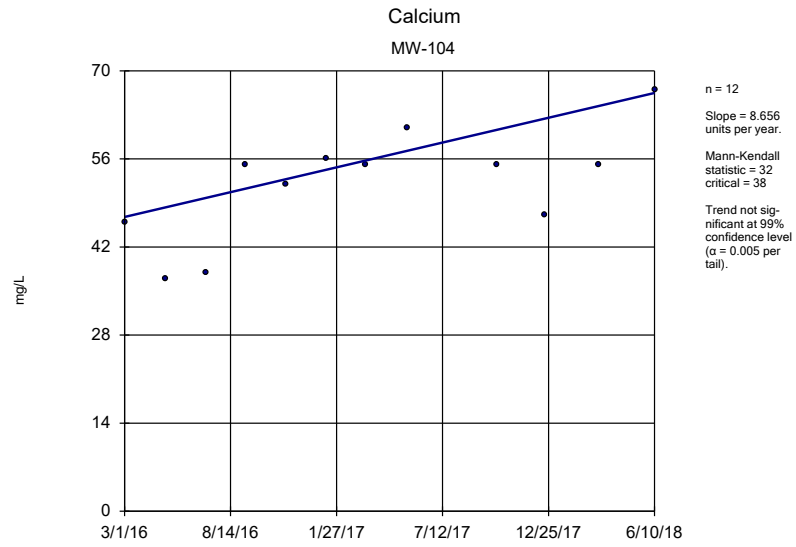

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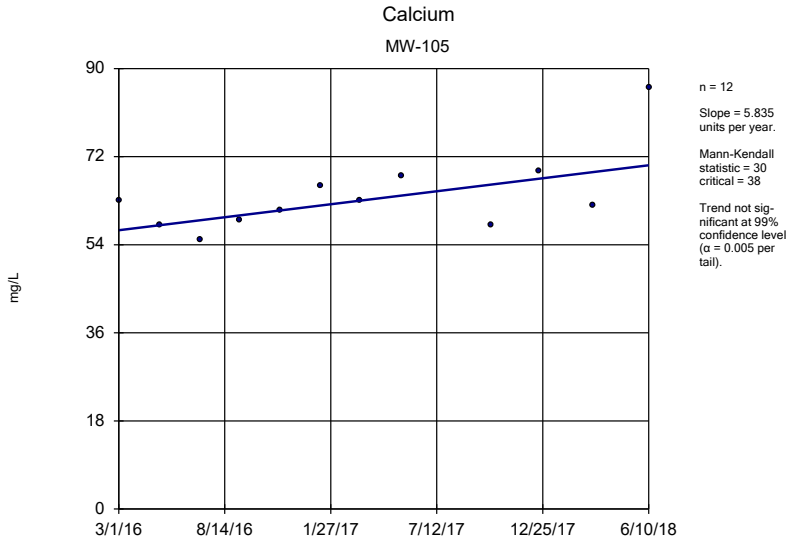

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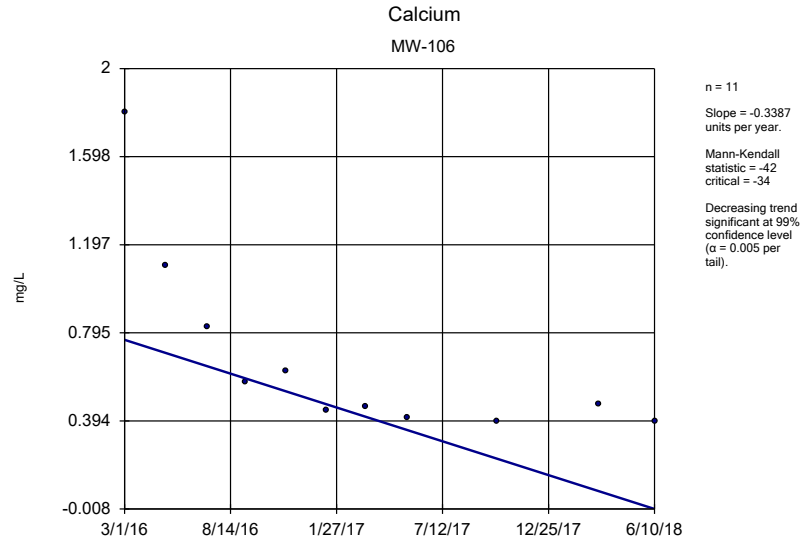

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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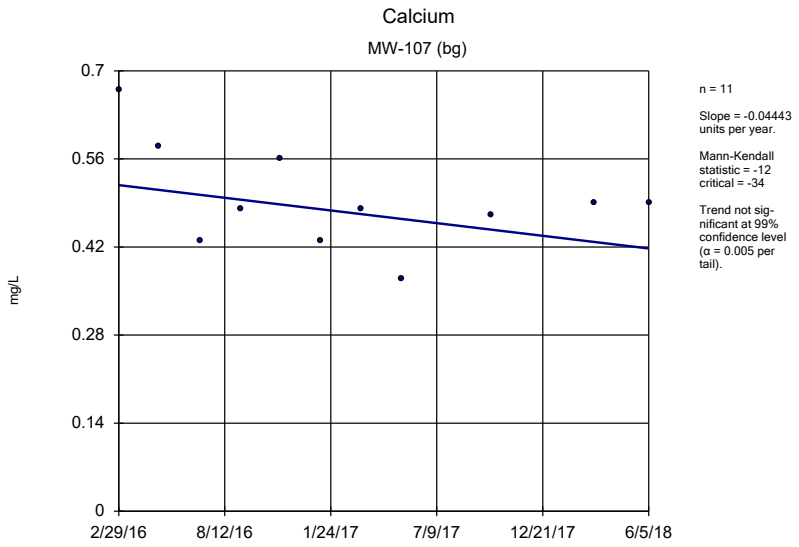
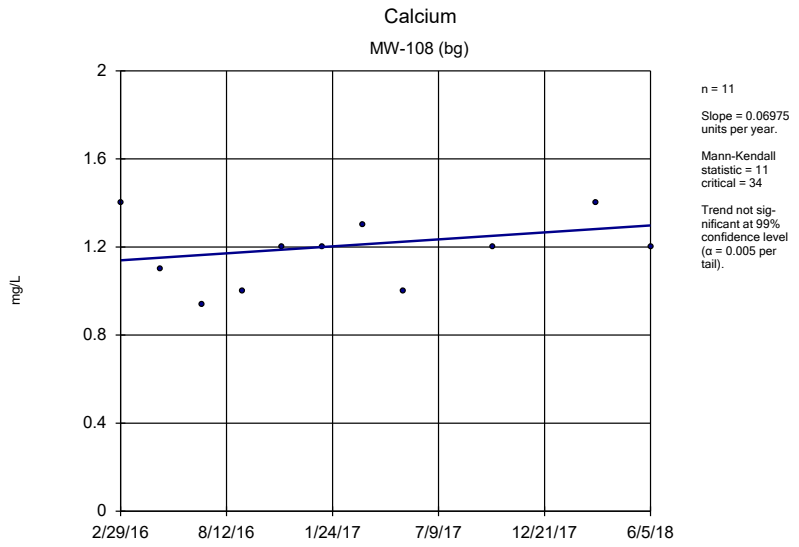


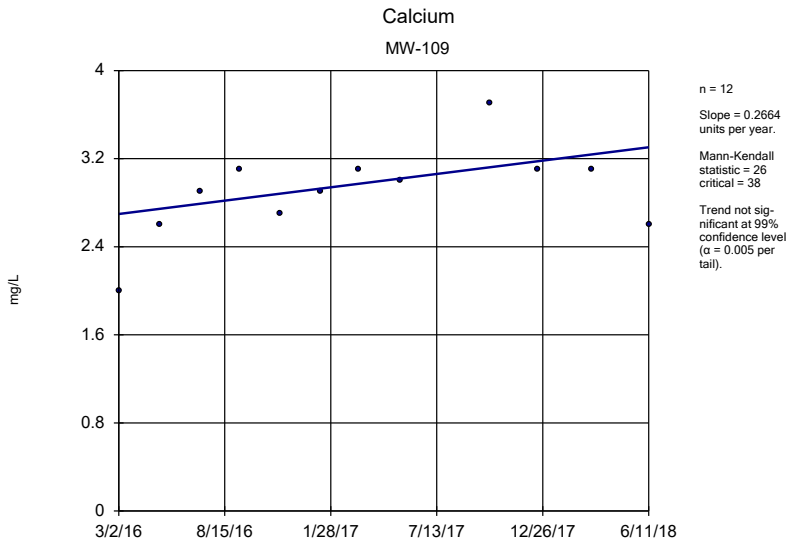
Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



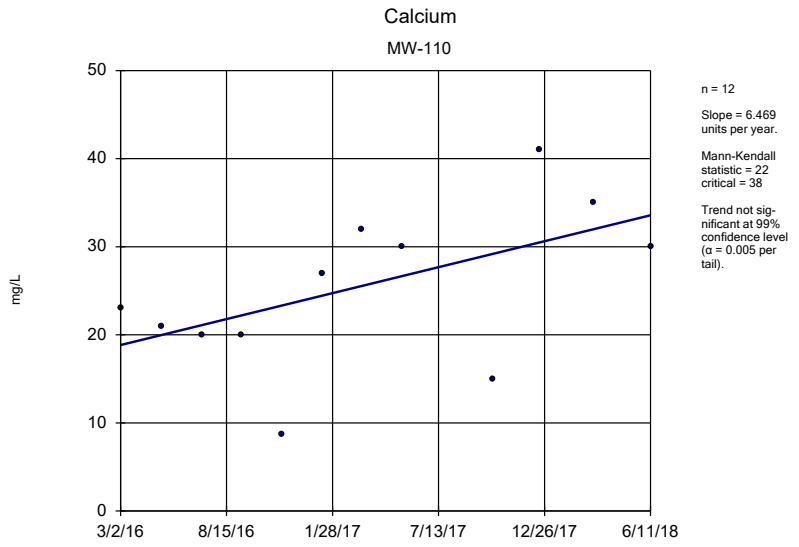
Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



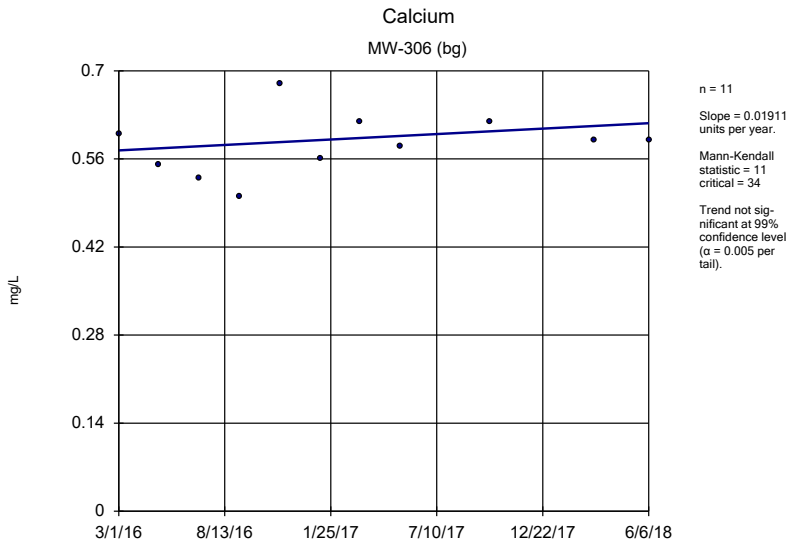
Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



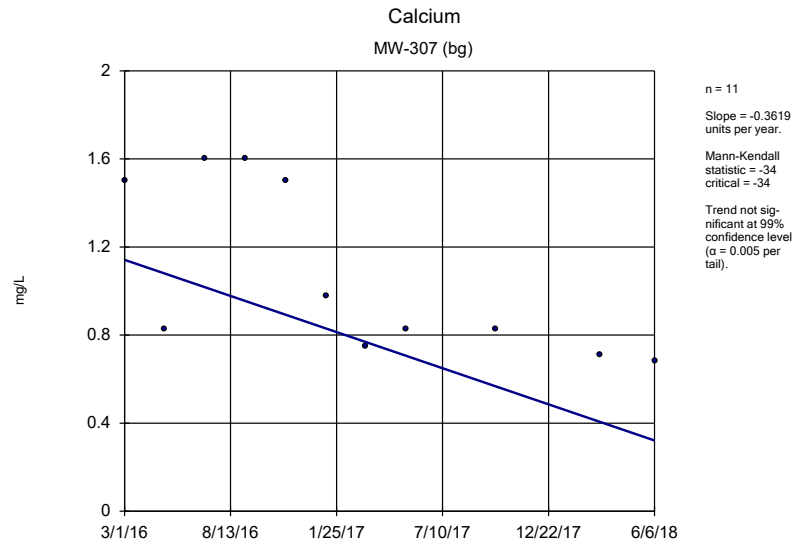
Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



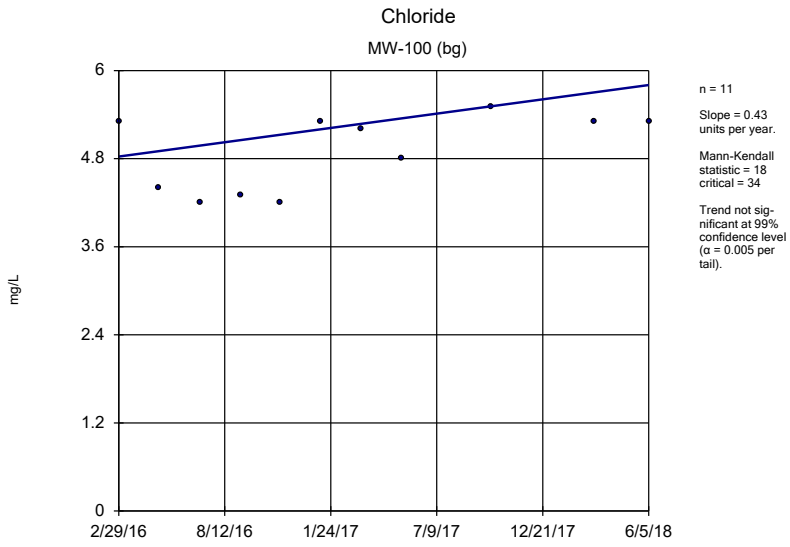
Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:22 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
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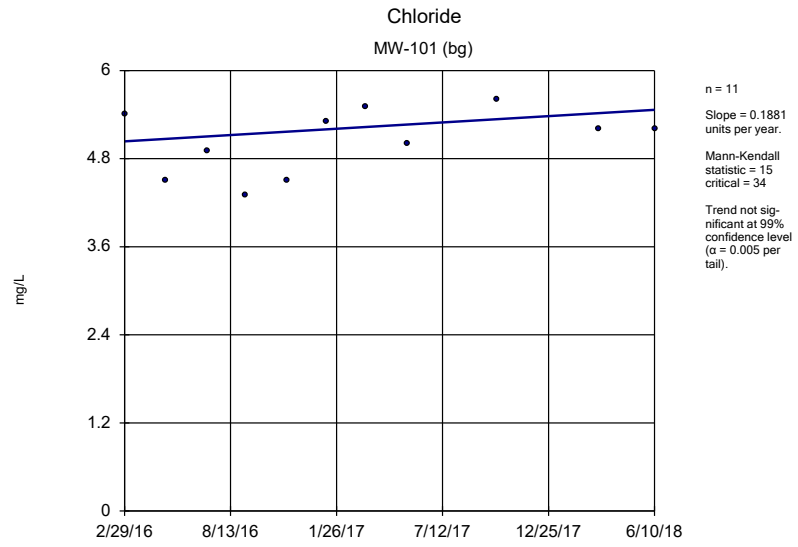
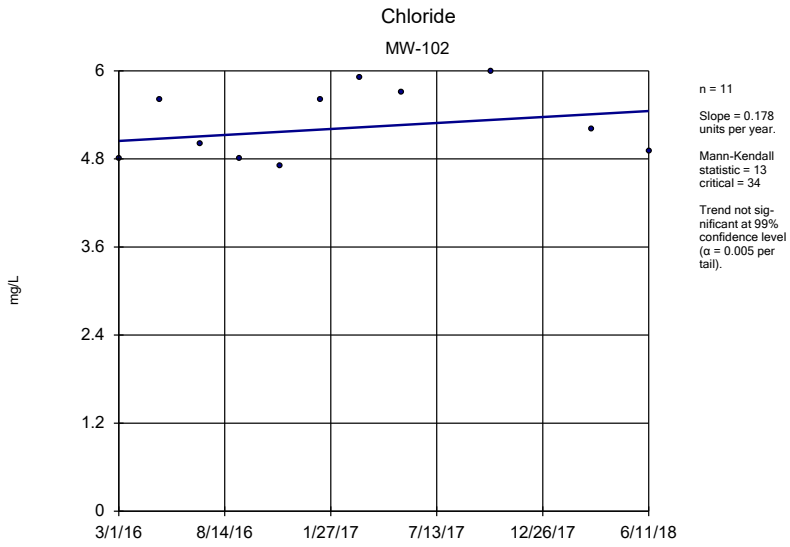
Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



n = 11

Slope = 0.178 units per year.

Mann-Kendall statistic = 13 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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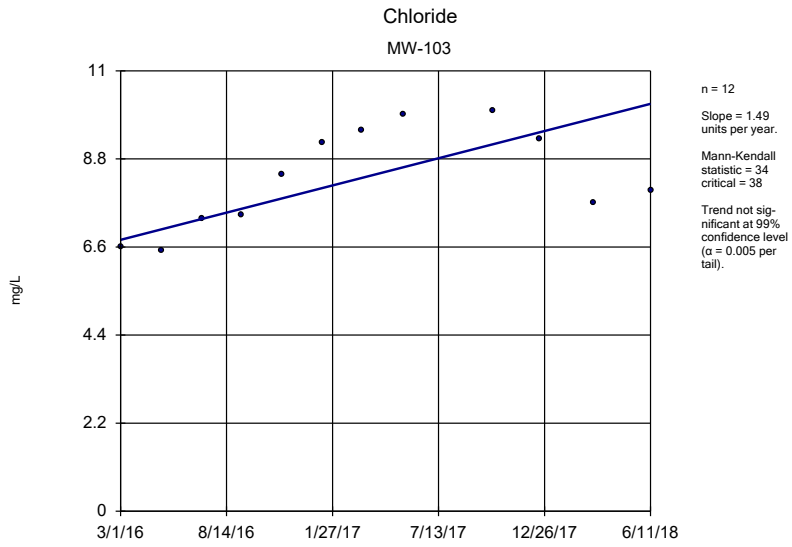

n = 12

Slope = 1.49 units per year.

Mann-Kendall statistic = 34 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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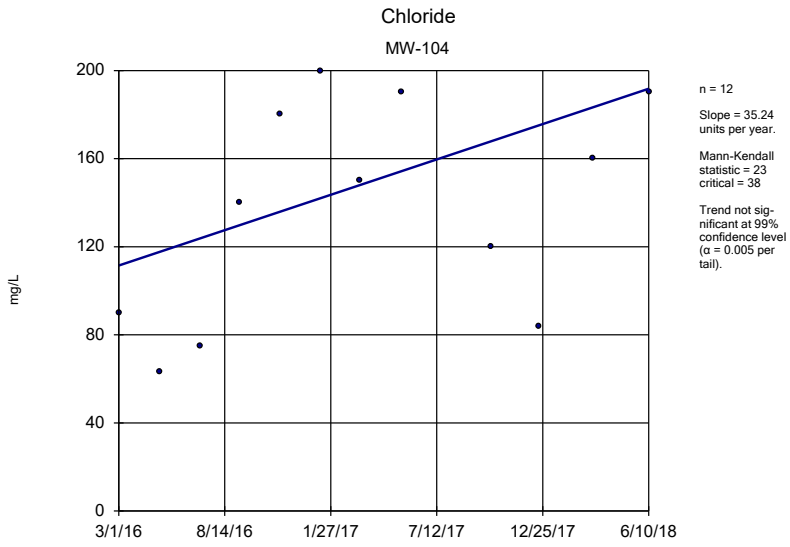

n = 12

Slope = 35.24 units per year.

Mann-Kendall statistic = 23 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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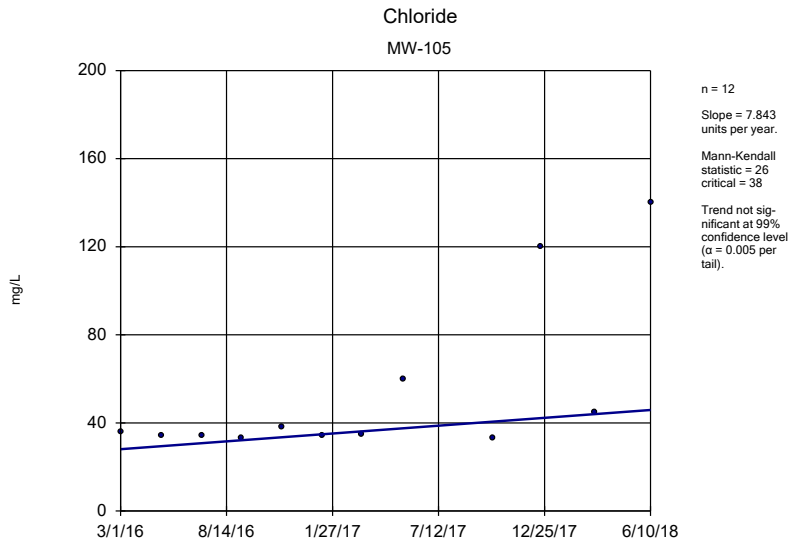

n = 12

Slope = 7.843 units per year.

Mann-Kendall statistic = 26 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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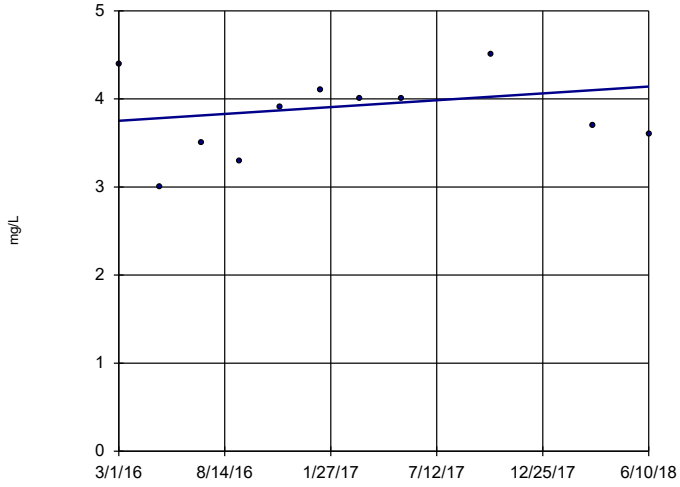
Chloride

MW-106



n = 11

Slope = 0.1708 units per year.

Mann-Kendall statistic = 8 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

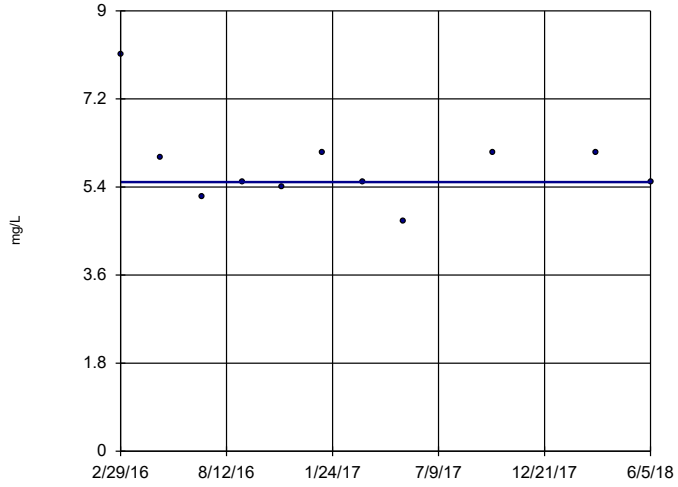
Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Chloride

MW-107 (bg)



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).

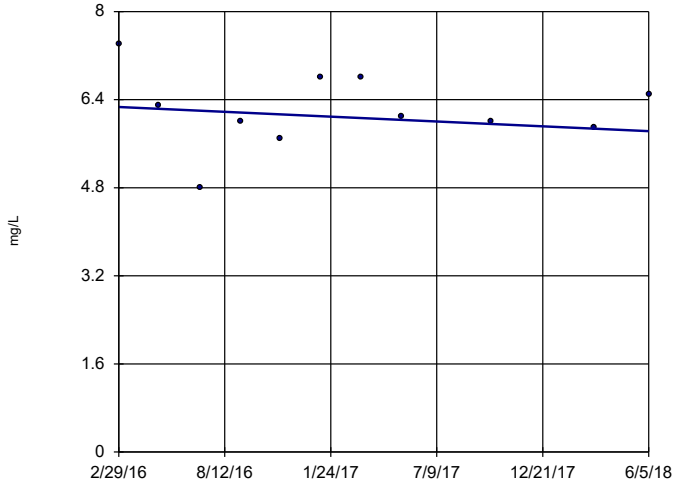
Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Chloride

MW-108 (bg)



n = 11

Slope = -0.1931 units per year.

Mann-Kendall statistic = -5 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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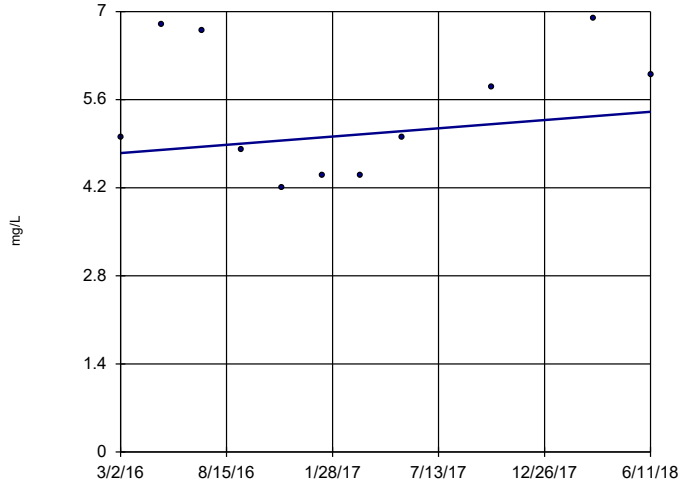
Chloride

MW-109



n = 11

Slope = 0.2885 units per year.

Mann-Kendall statistic = 7 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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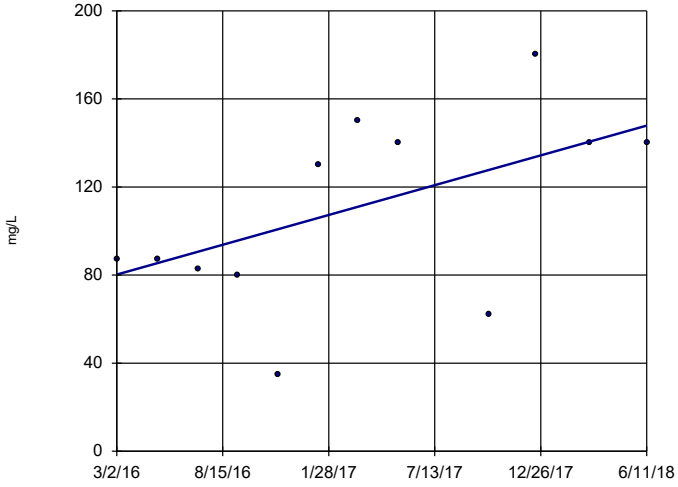
Chloride

MW-110



n = 12

Slope = 29.71 units per year.

Mann-Kendall statistic = 20 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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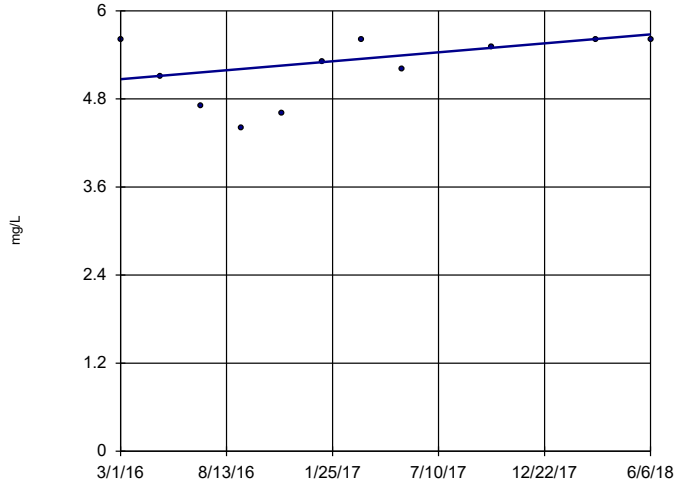
Chloride

MW-306 (bg)



n = 11

Slope = 0.2692 units per year.

Mann-Kendall statistic = 19 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

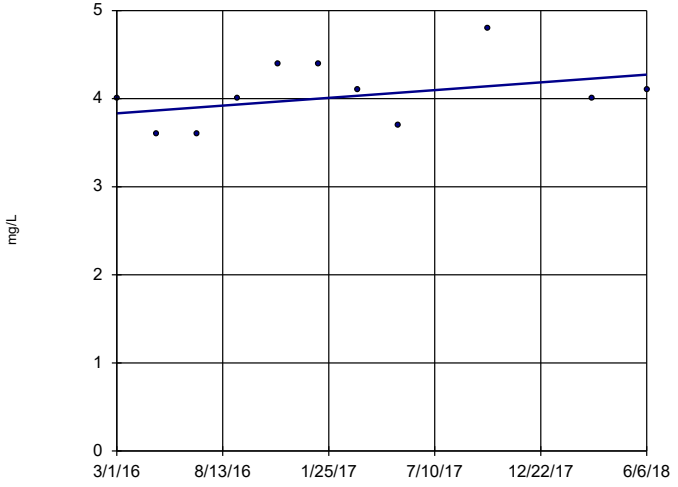
Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

Chloride

MW-307 (bg)



n = 11

Slope = 0.1941 units per year.

Mann-Kendall statistic = 17 critical = 34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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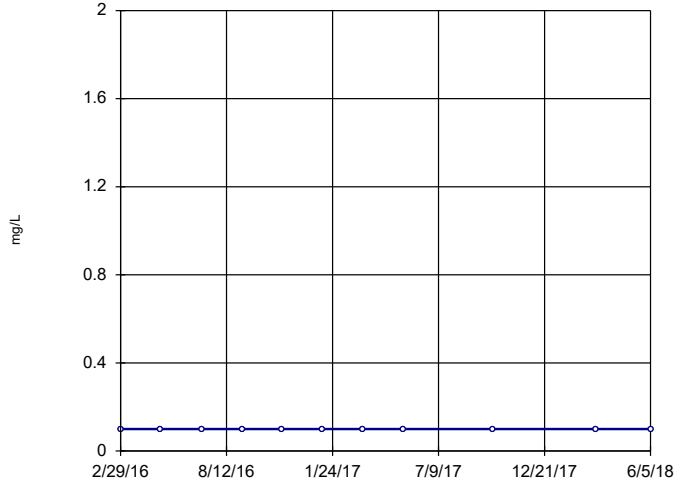
Hollow symbols indicate censored values.

Fluoride

MW-100 (bg)



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).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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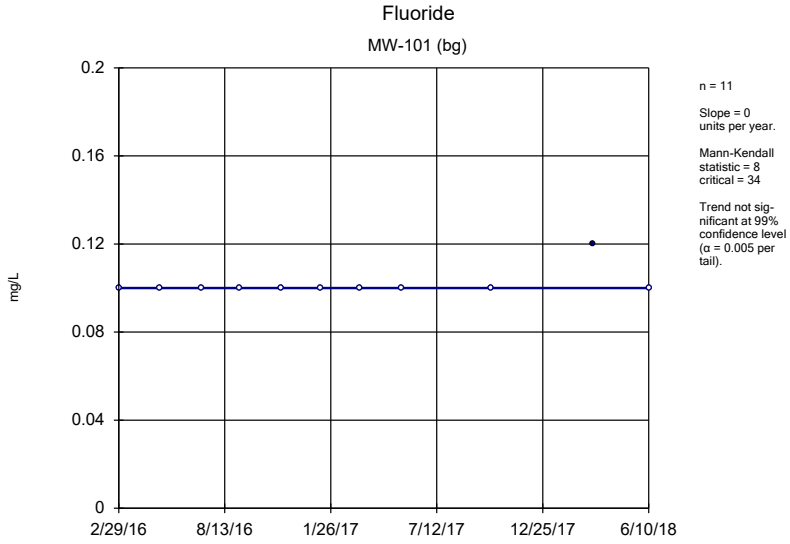
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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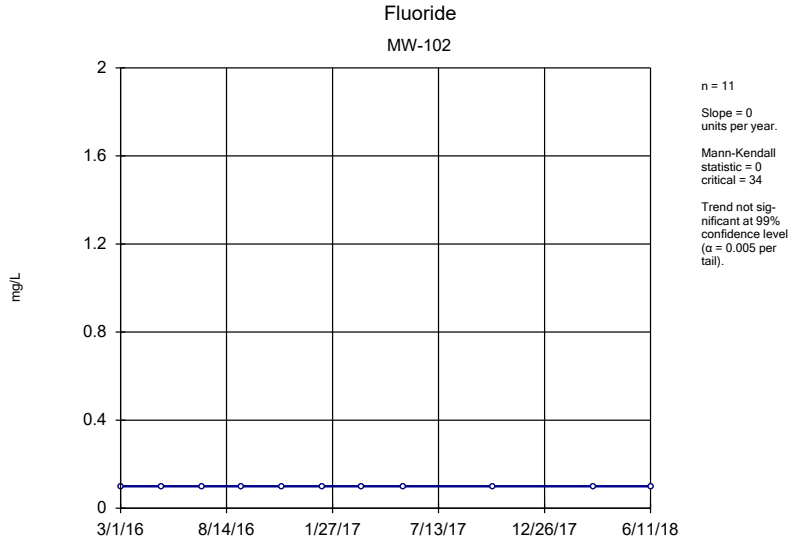
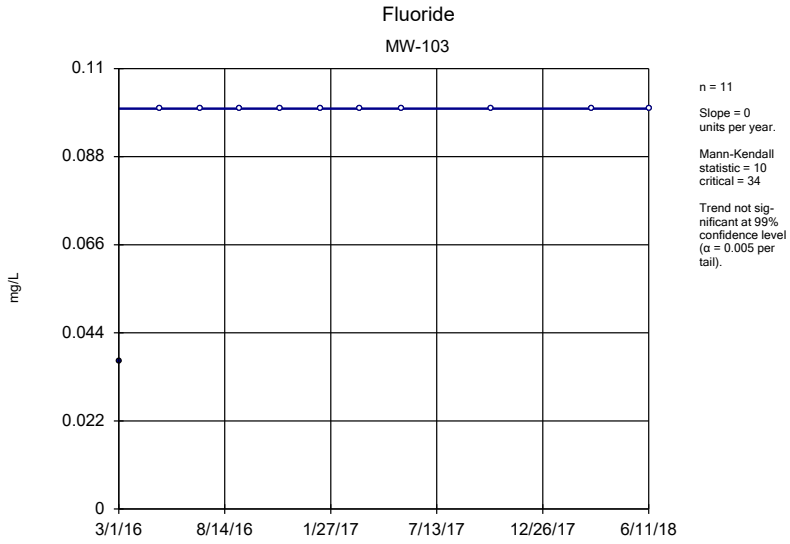
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



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Plant Crist Client: Southern Company Data: Plant Crist CCR

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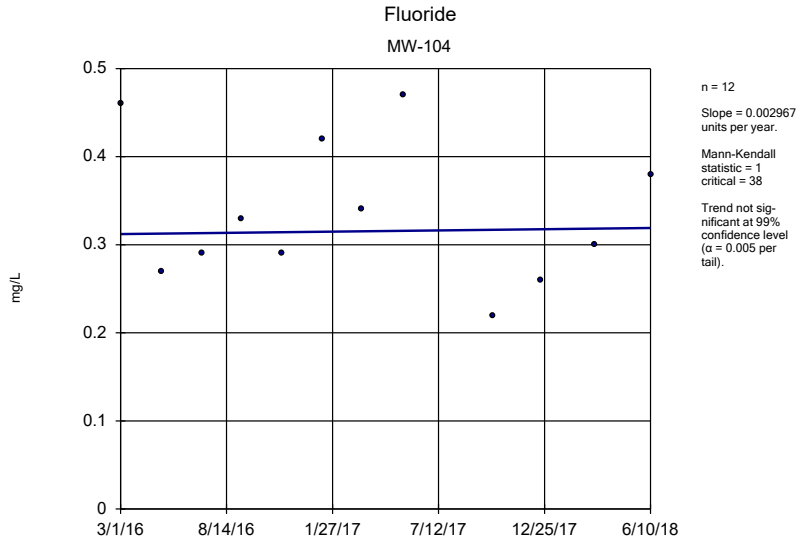

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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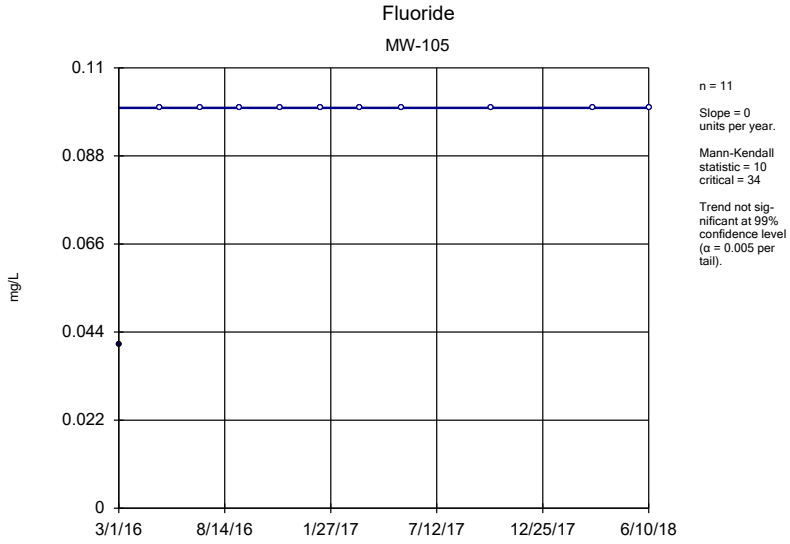

n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 10
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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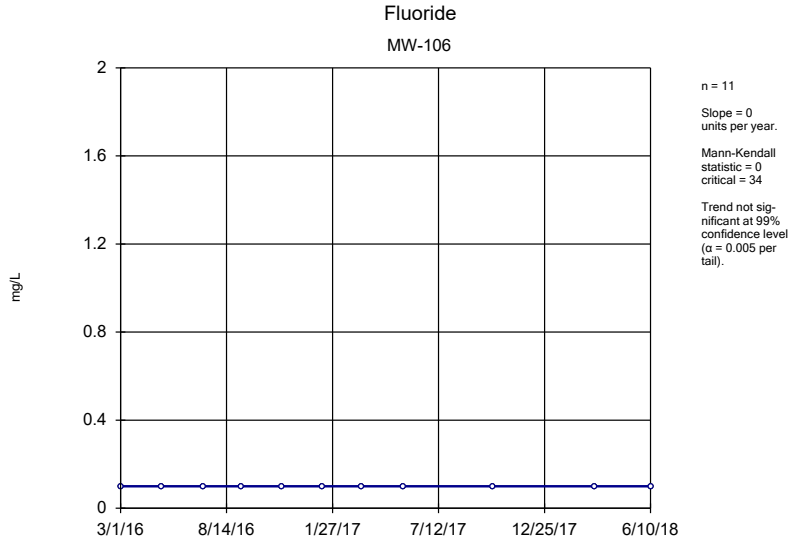
Hollow symbols indicate censored values.



n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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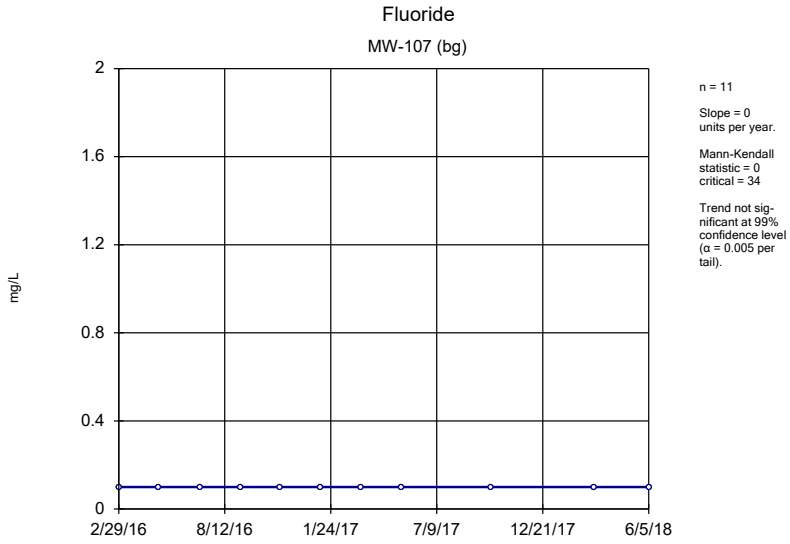

n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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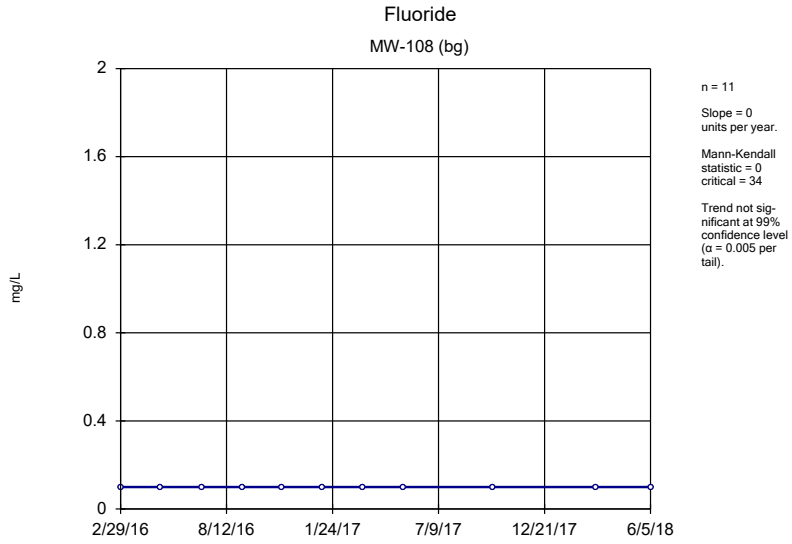
Hollow symbols indicate censored values.



n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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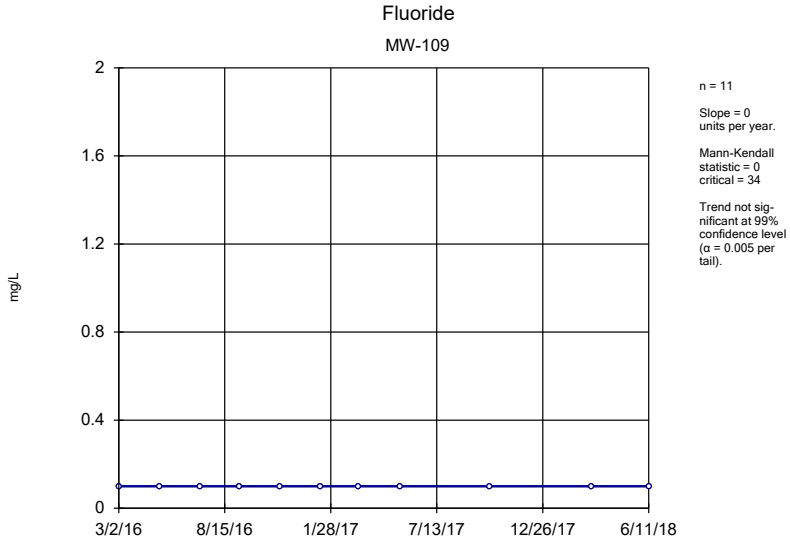

n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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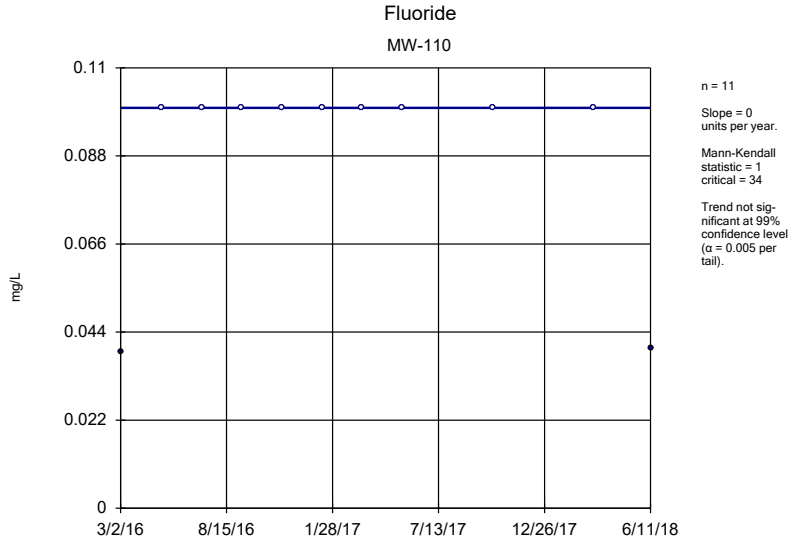
Hollow symbols indicate censored values.



n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 1
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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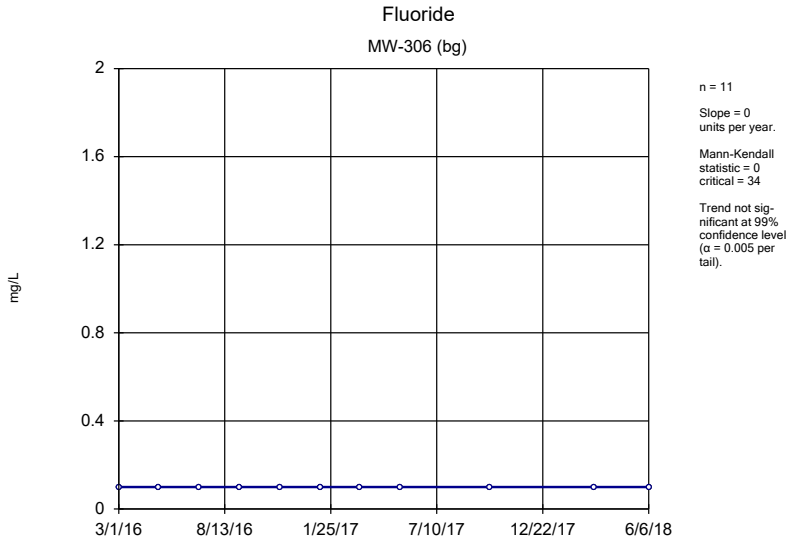


n = 11

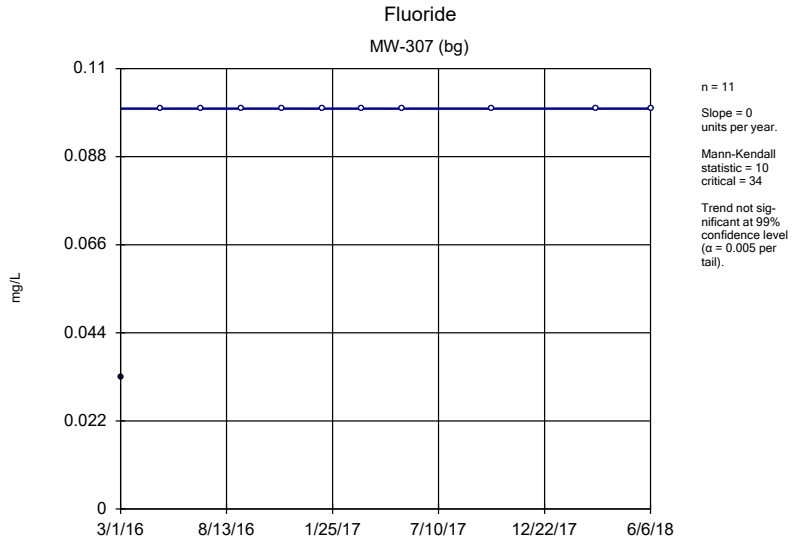
Slope = 0
units per year.

Mann-Kendall
statistic = 0
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = 10
critical = 34

Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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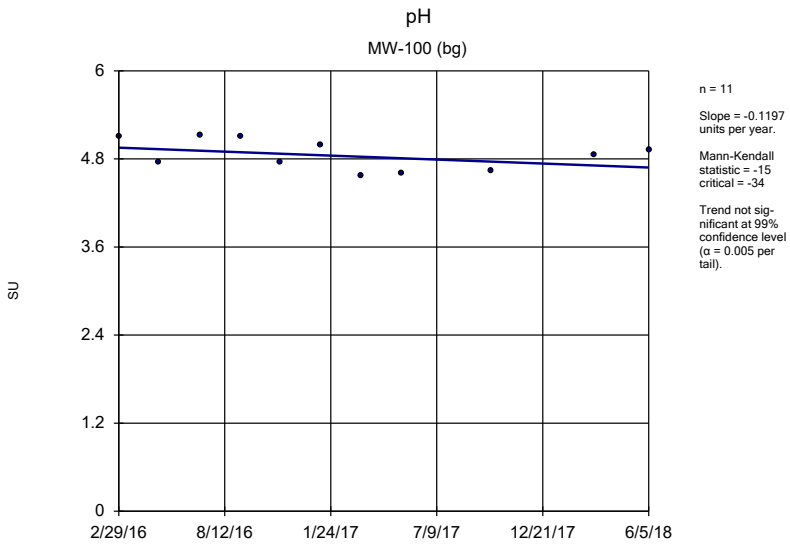

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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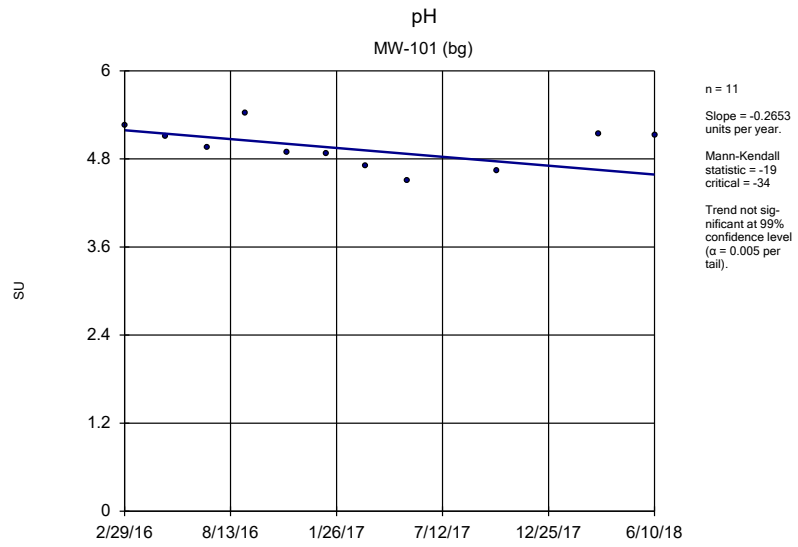
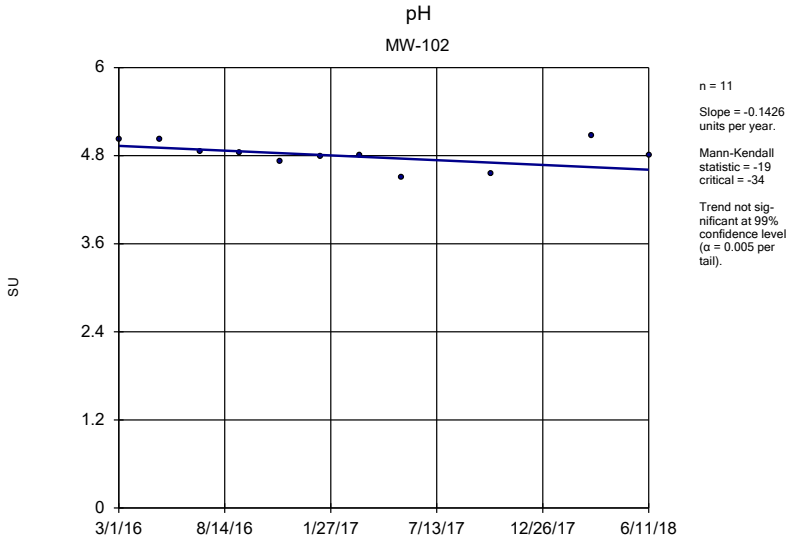


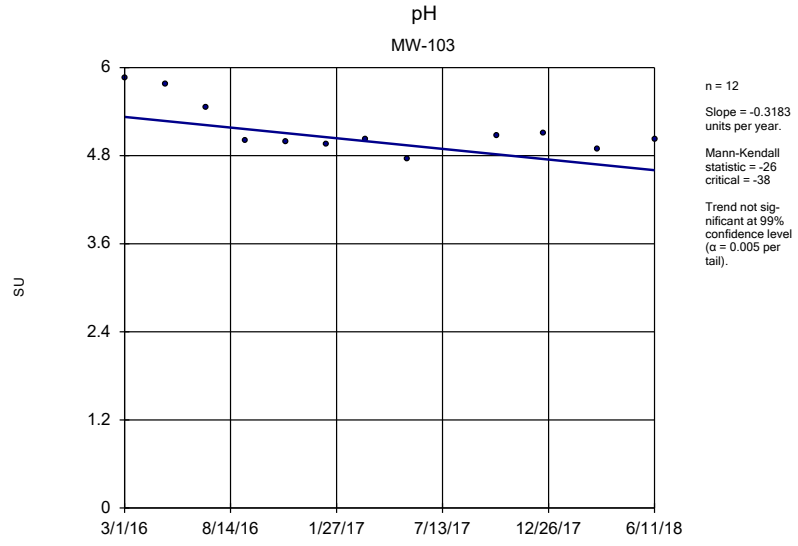
Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



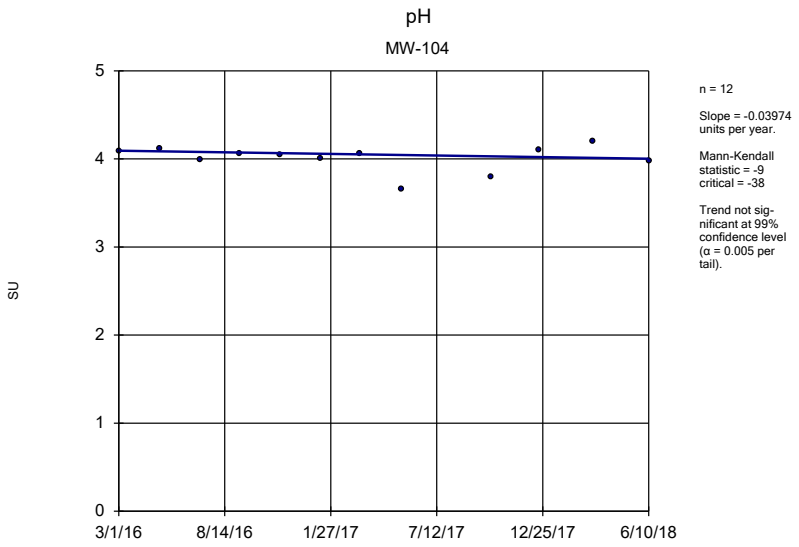
Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



n = 12

Slope = -0.03974 units per year.

Mann-Kendall statistic = -9 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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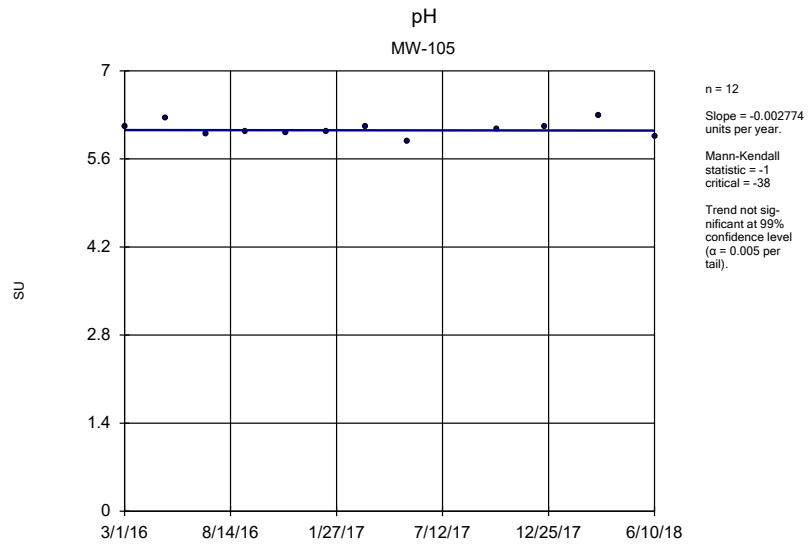

n = 12

Slope = -0.002774 units per year.

Mann-Kendall statistic = -1 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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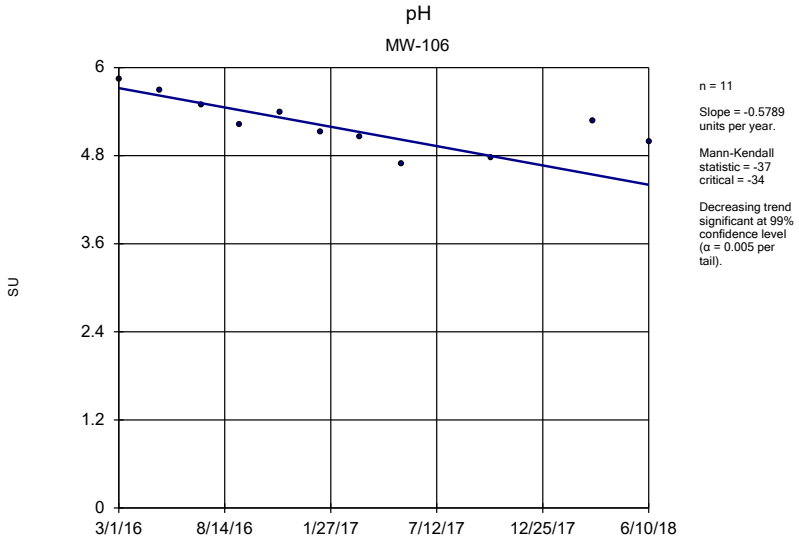

n = 11

Slope = -0.5789 units per year.

Mann-Kendall statistic = -37 critical = -34

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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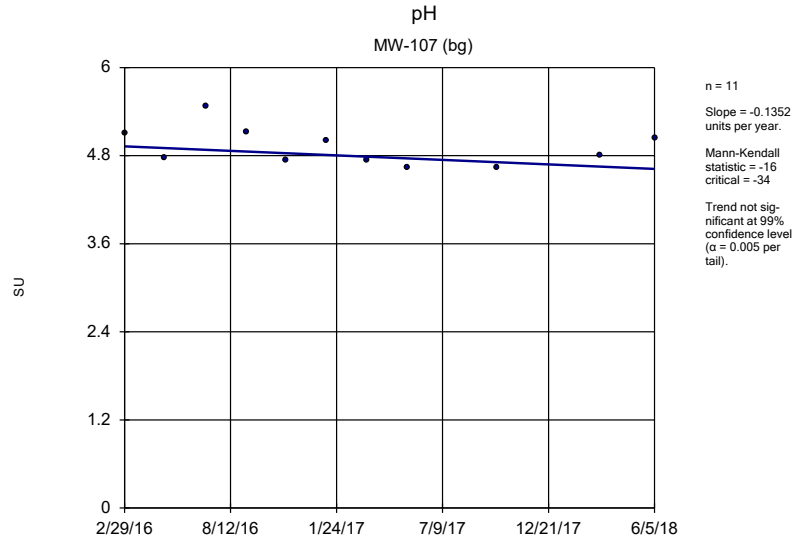

n = 11

Slope = -0.1352 units per year.

Mann-Kendall statistic = -16 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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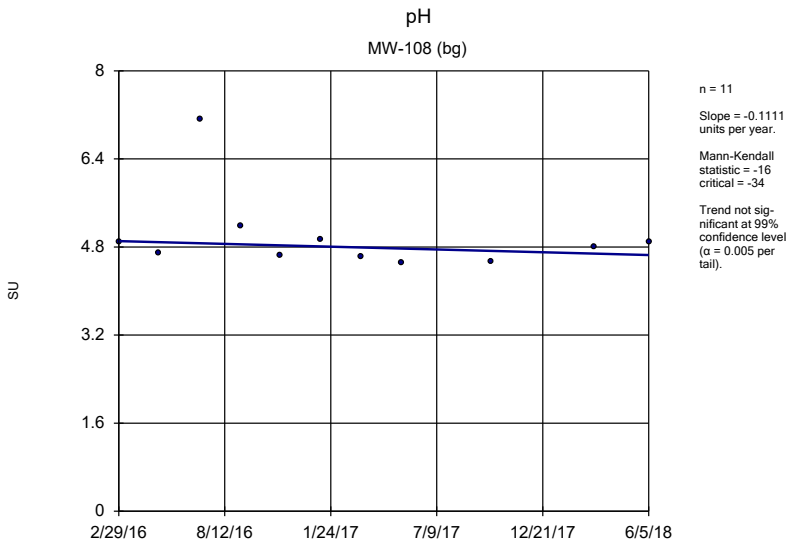

n = 11

Slope = -0.1111 units per year.

Mann-Kendall statistic = -16 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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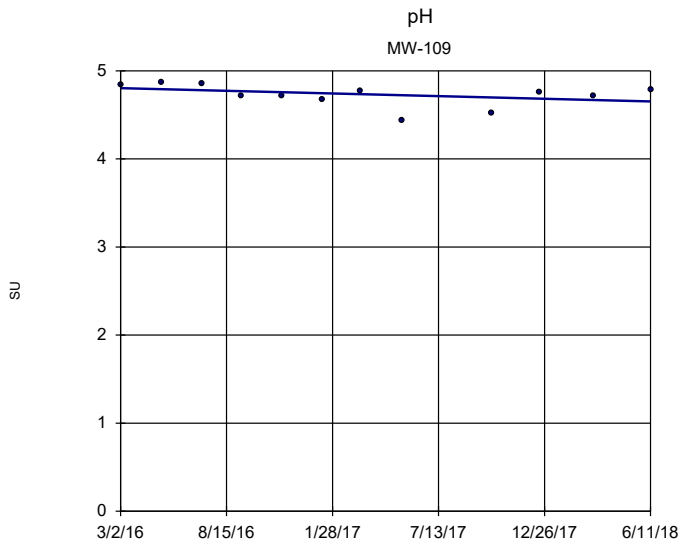

n = 12

Slope = -0.06583 units per year.

Mann-Kendall statistic = -21 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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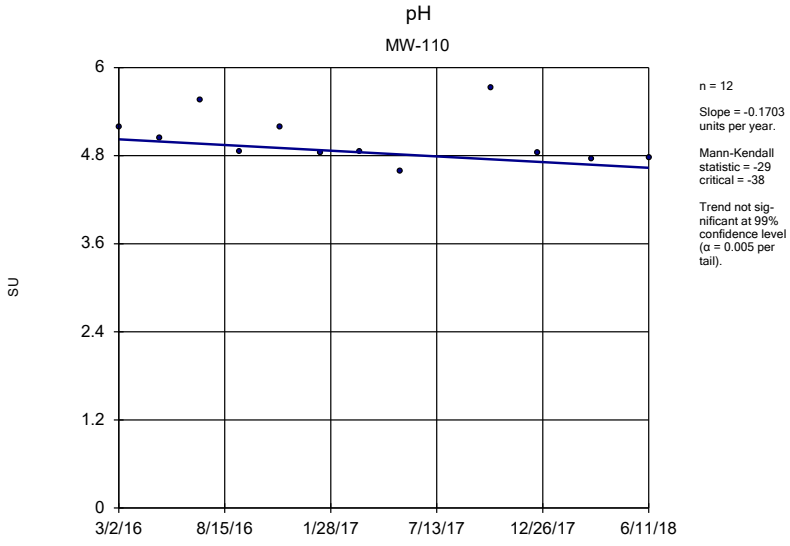


n = 12

Slope = -0.1703 units per year.

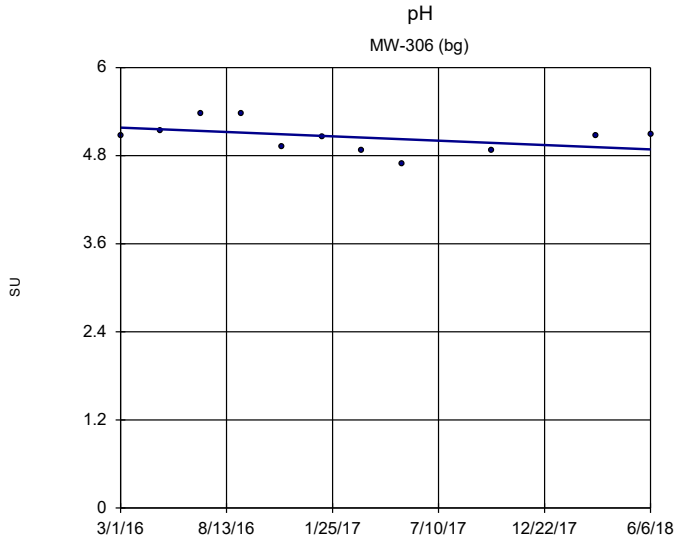
Mann-Kendall statistic = -29 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



n = 11

Slope = -0.1309 units per year.

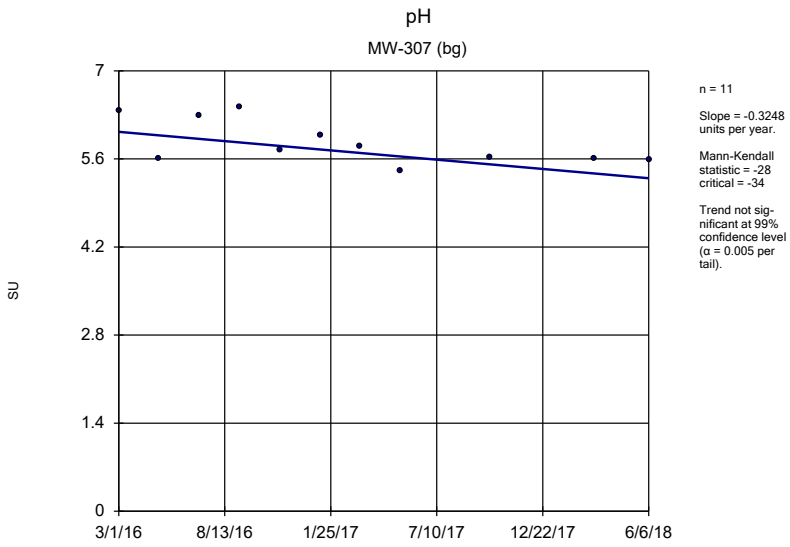
Mann-Kendall statistic = -15 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

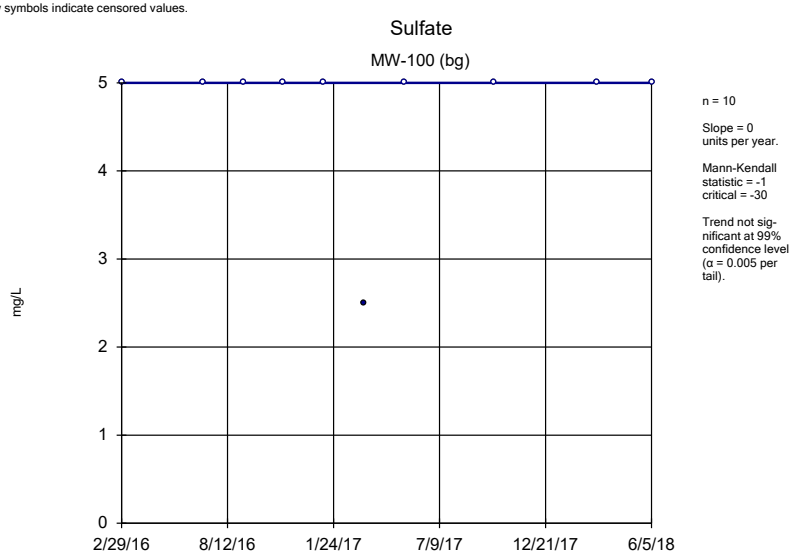
Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

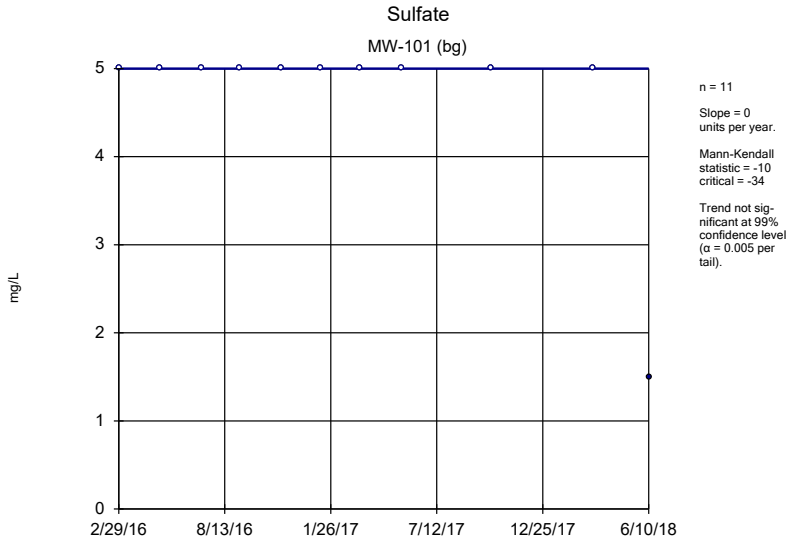
Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

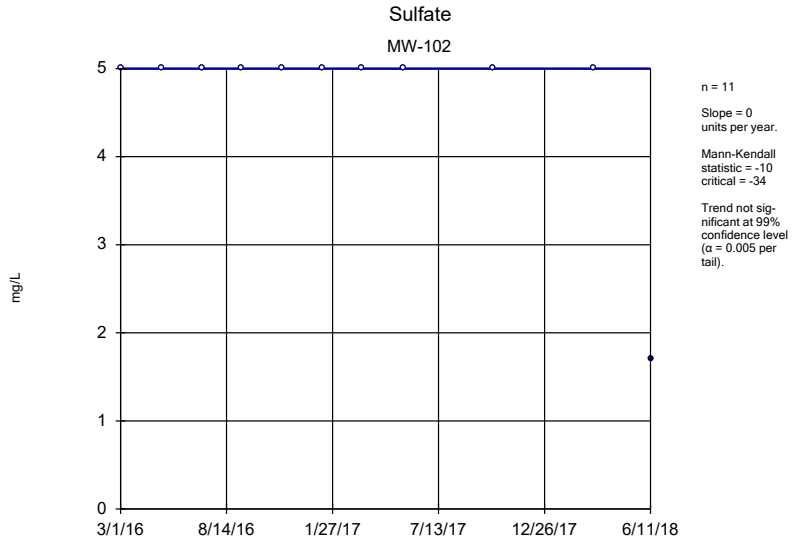
Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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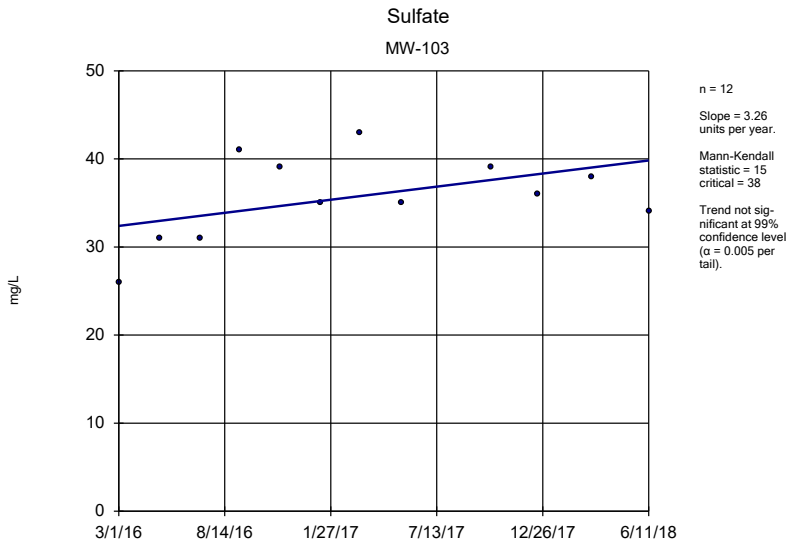

n = 12

Slope = 3.26 units per year.

Mann-Kendall statistic = 15 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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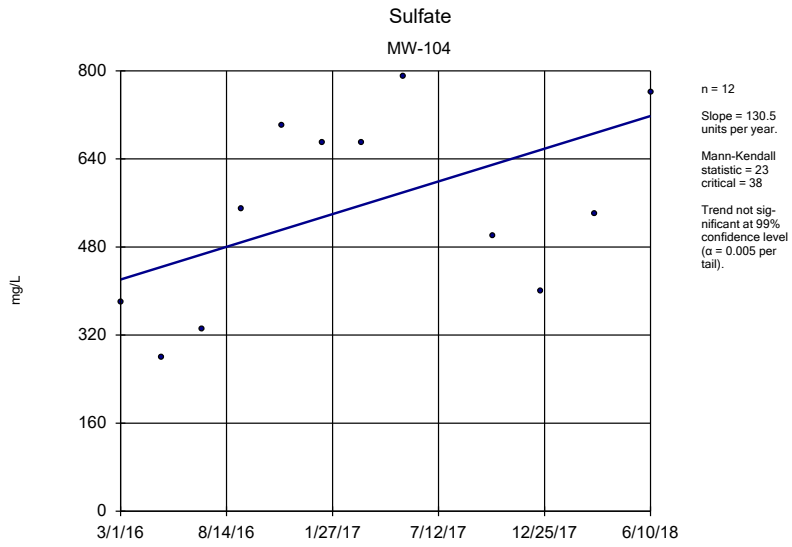

n = 12

Slope = 130.5 units per year.

Mann-Kendall statistic = 23 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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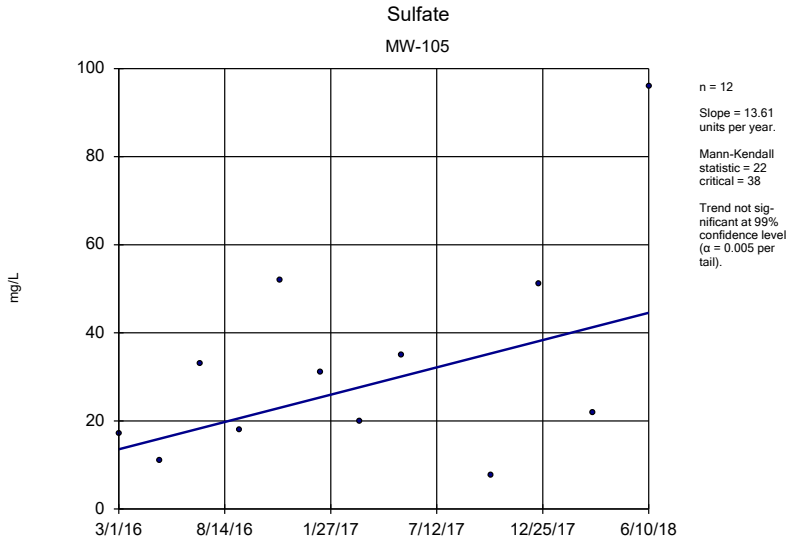

n = 12

Slope = 13.61 units per year.

Mann-Kendall statistic = 22 critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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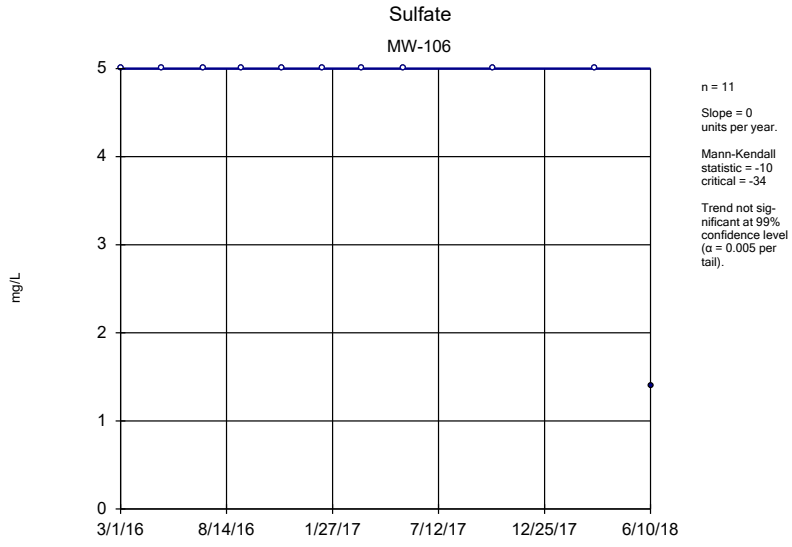

n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -10 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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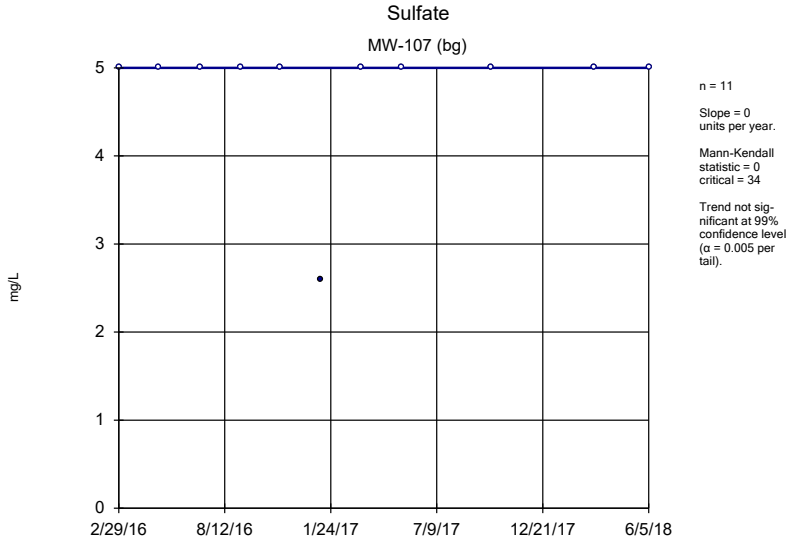
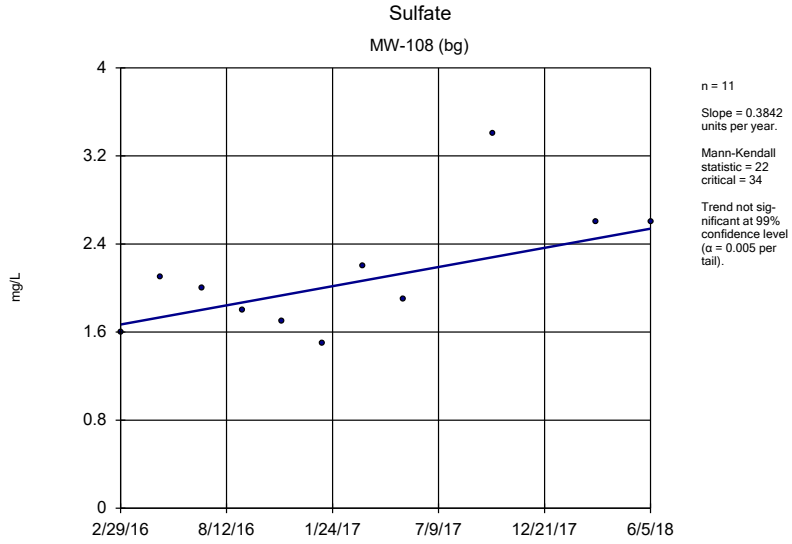
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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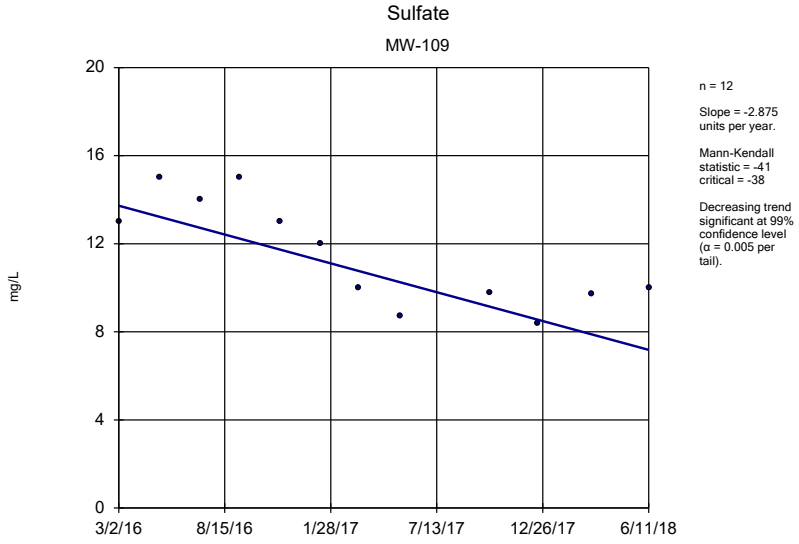

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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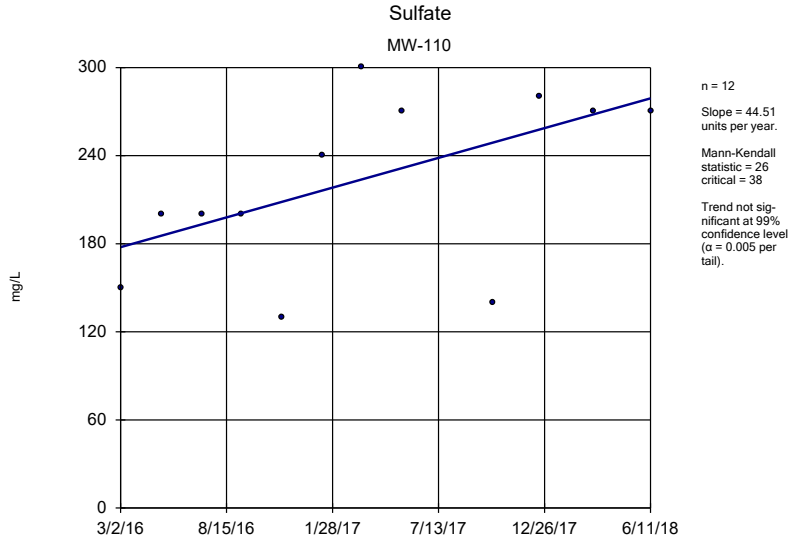

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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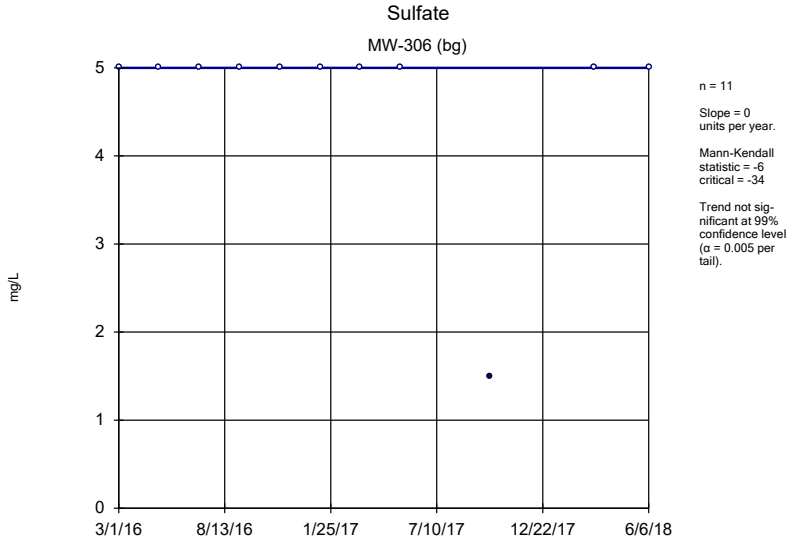

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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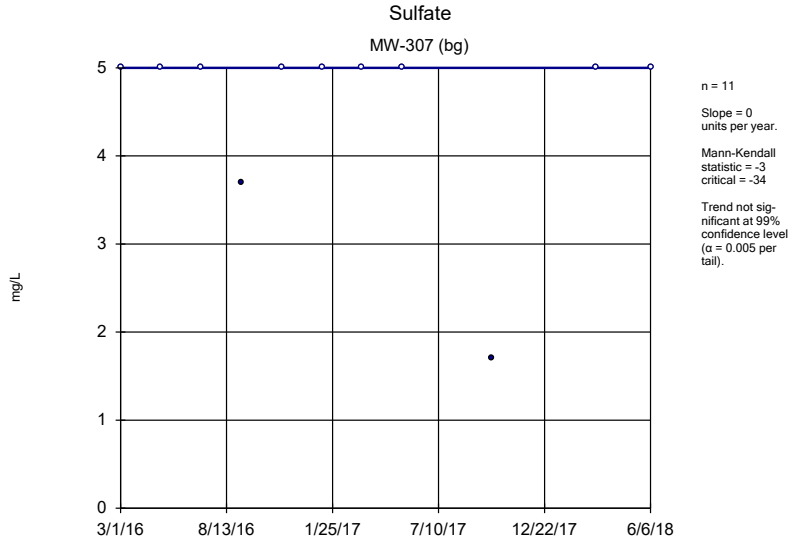

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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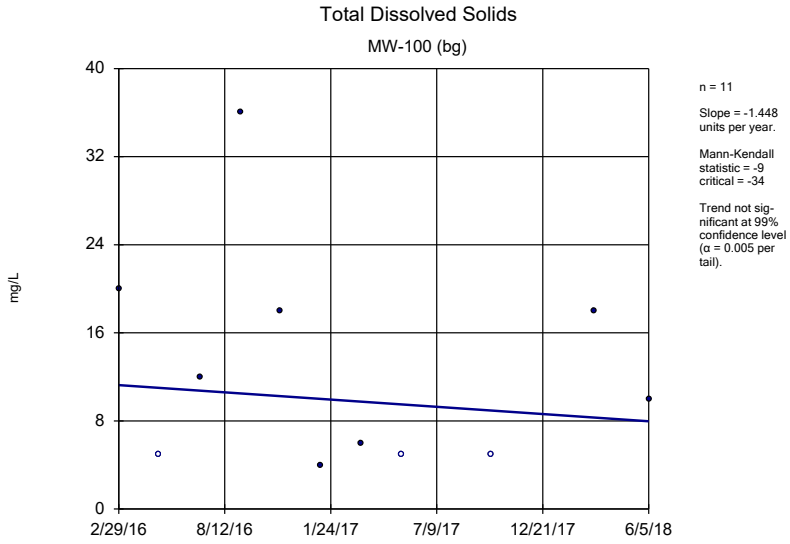
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
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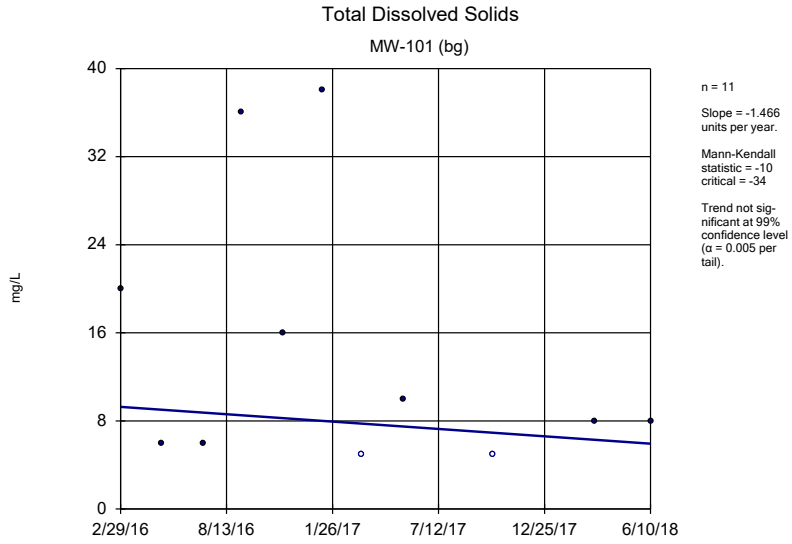
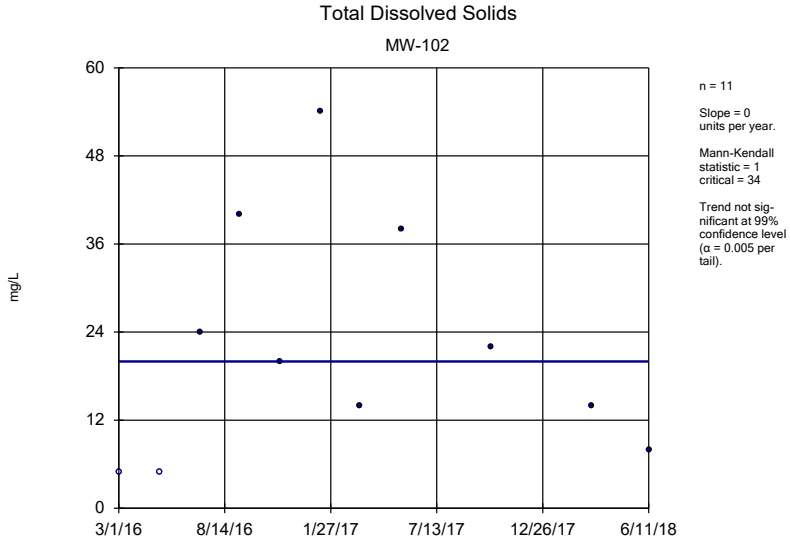


Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG

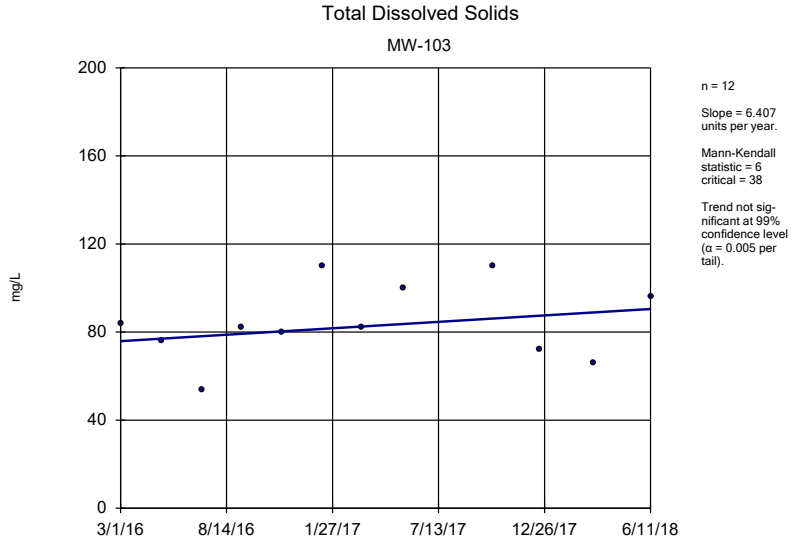
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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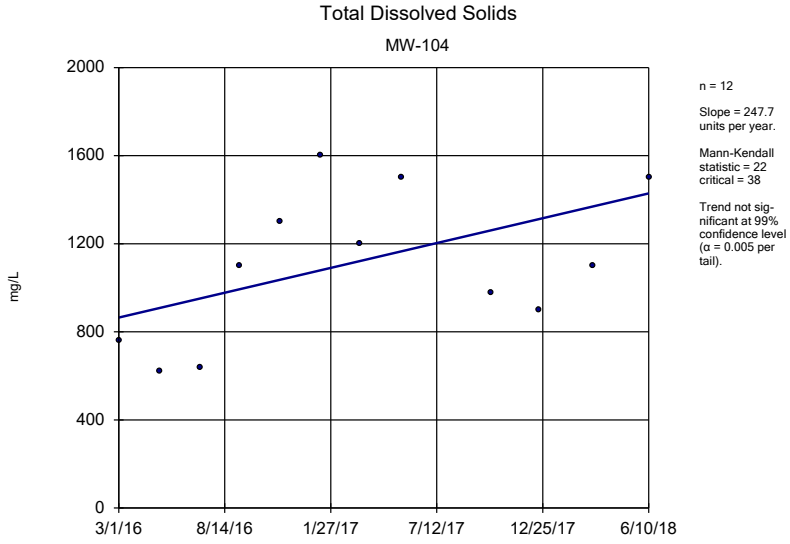

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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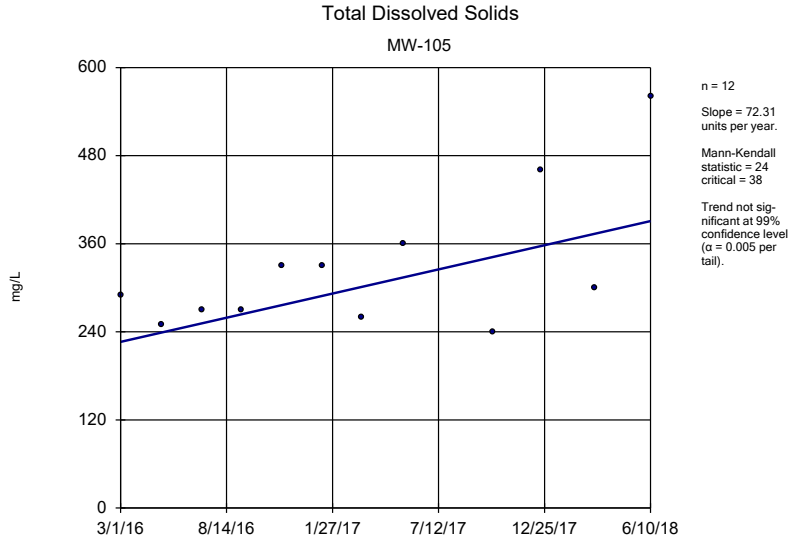

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series

Plant Crist Client: Southern Company Data: Plant Crist CCR

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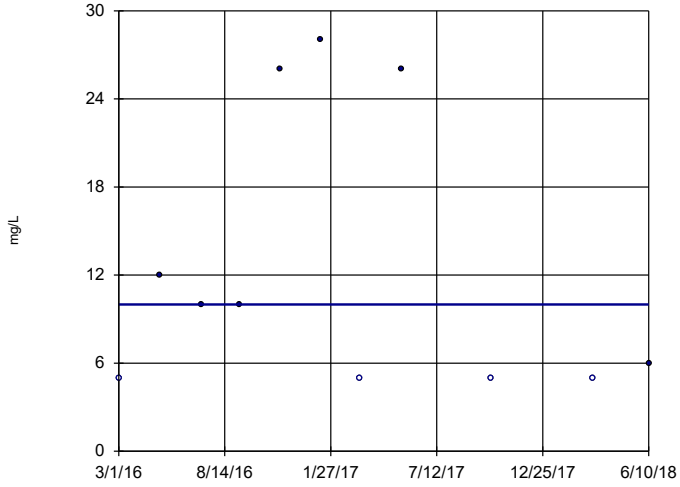
Hollow symbols indicate censored values.

Total Dissolved Solids

MW-106



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -5 critical = -34

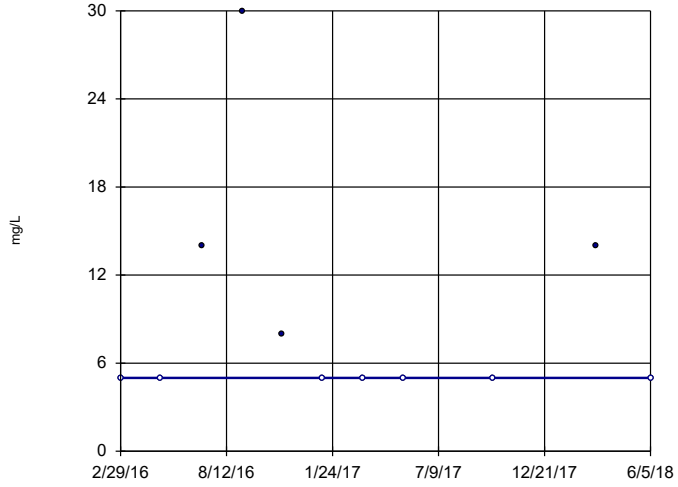
Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

Total Dissolved Solids

MW-107 (bg)



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -5 critical = -34

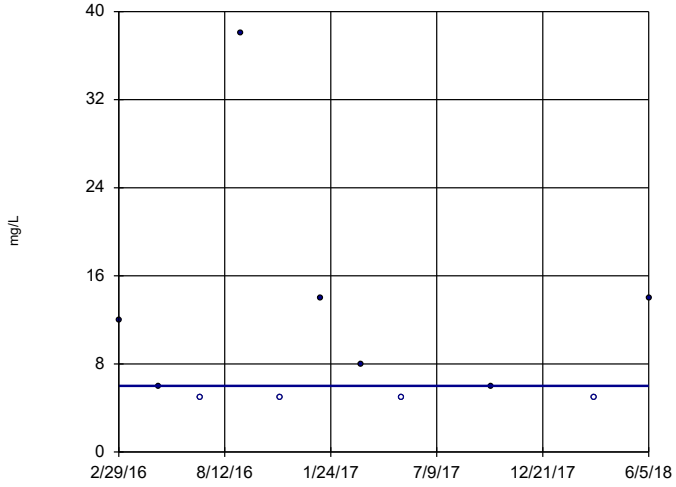
Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

Total Dissolved Solids

MW-108 (bg)



n = 11

Slope = 0 units per year.

Mann-Kendall statistic = -5 critical = -34

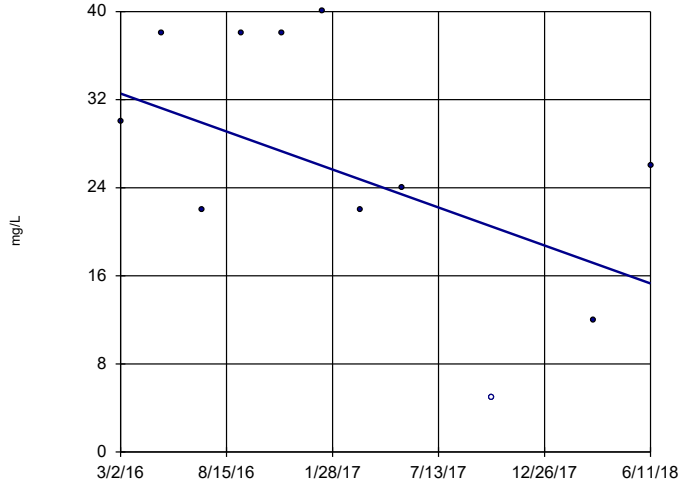
Trend not significant at 99% confidence level (α = 0.005 per tail).

Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.

Total Dissolved Solids

MW-109



n = 11

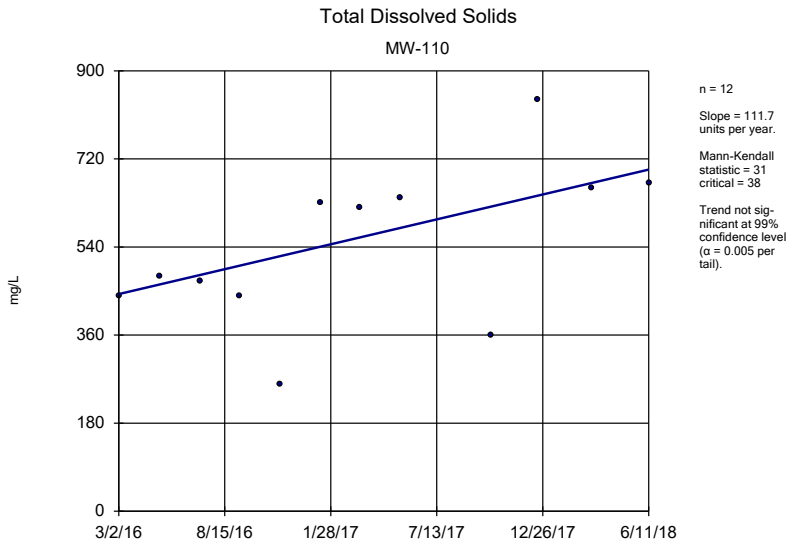
Slope = -7.578 units per year.

Mann-Kendall statistic = -15 critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

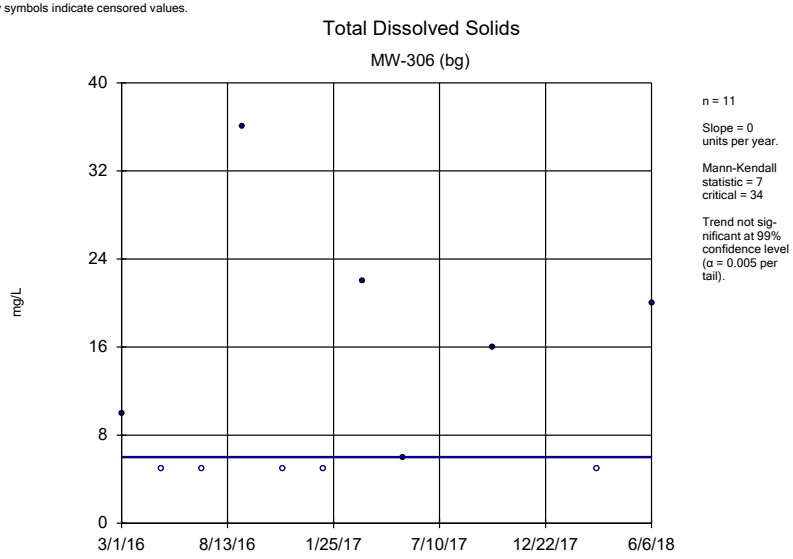
Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG



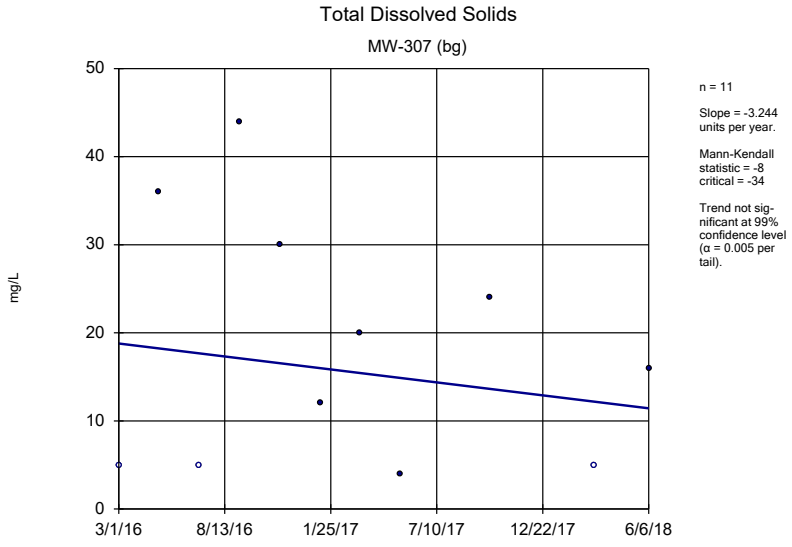
Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
Hollow symbols indicate censored values.



Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

APPENDIX C

Alternate Source Demonstration, CCR Unit Ash Landfill No. 1