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

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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

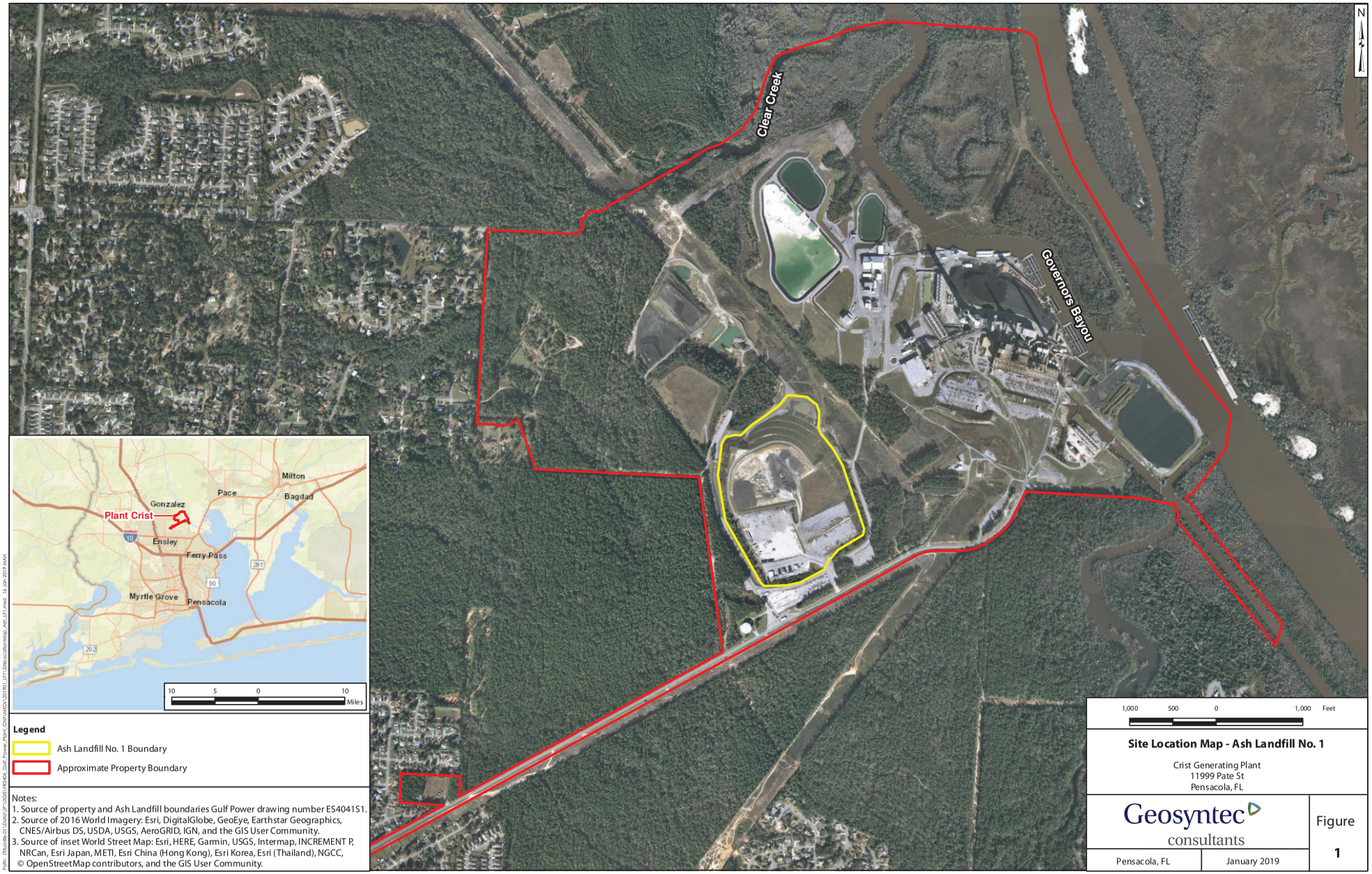
Plant Crist - LF1, Gulf Power Company, Pensacola, Florida

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.

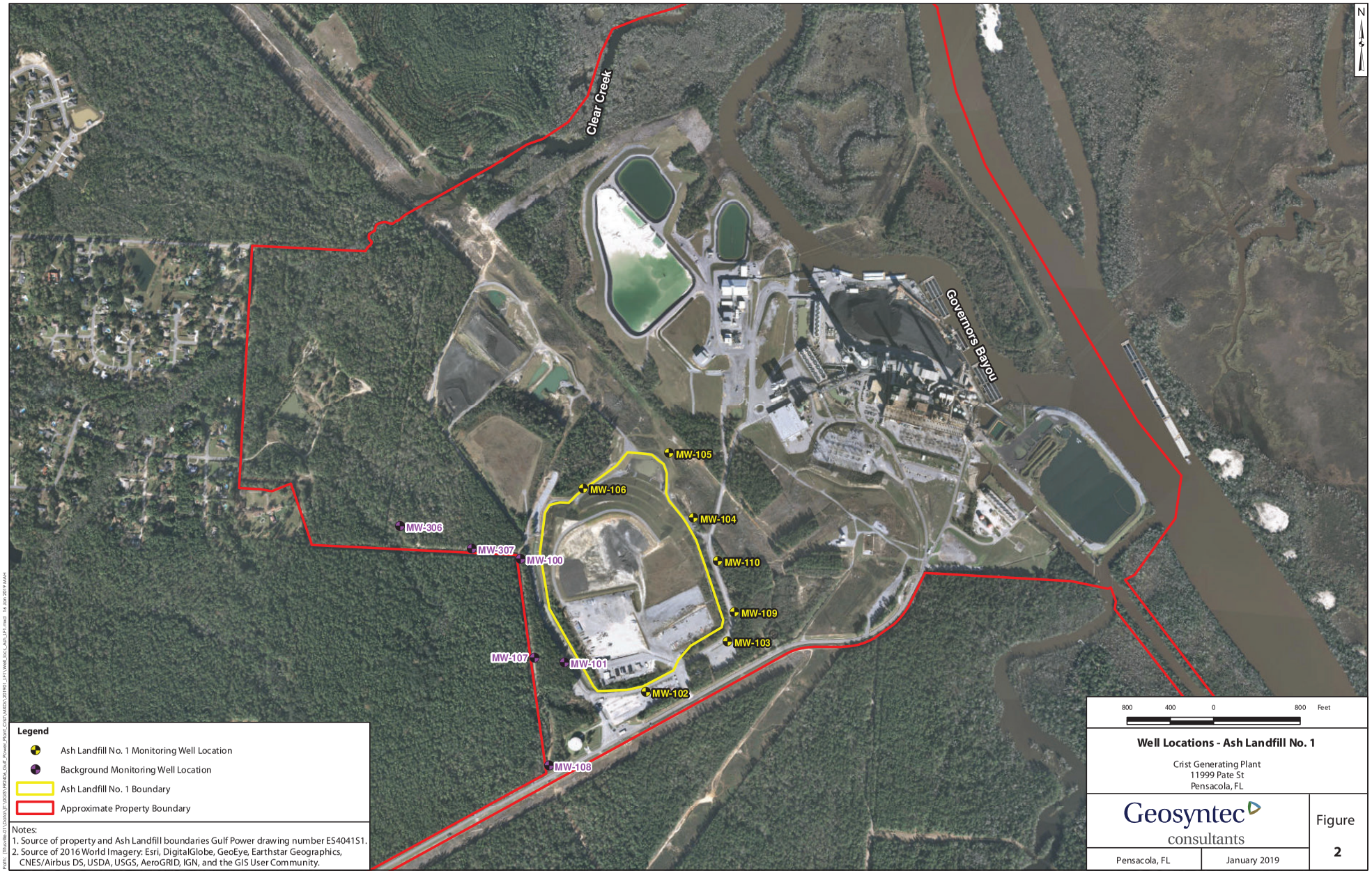
Site Location Map - Ash Landfill No. 1

Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Figure 1

Pensacola, FL | January 2019



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

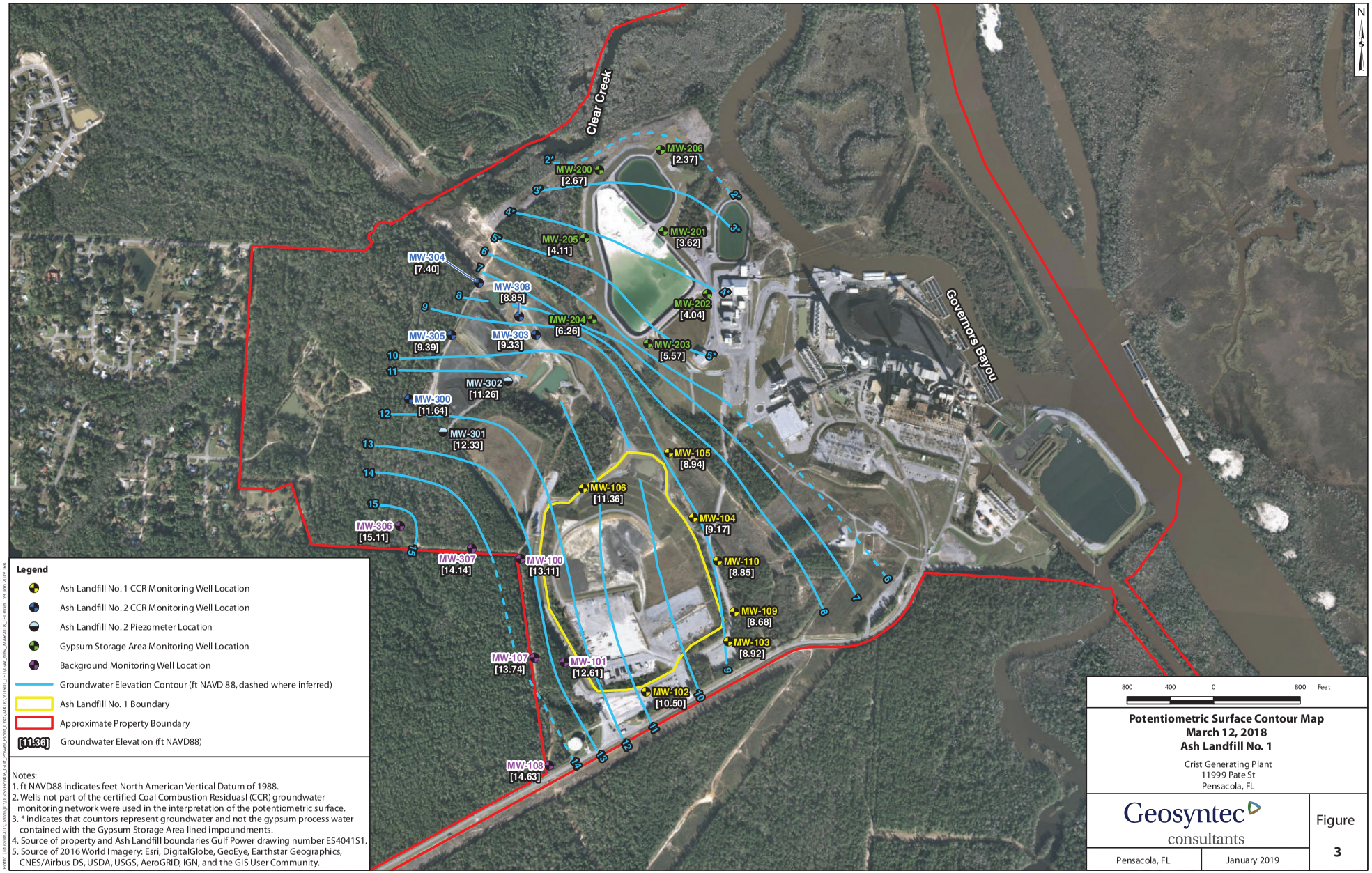
Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 2

Path: [Illuville-01\Data\]T:\DGIS\FR2406_Gulf_Power_Plant_Crist\MXDs\201901_LF1\Well_locs_Ash_LF1.mxd 16 Jan 2019 MAH



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
- [11.36] 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 Residual (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

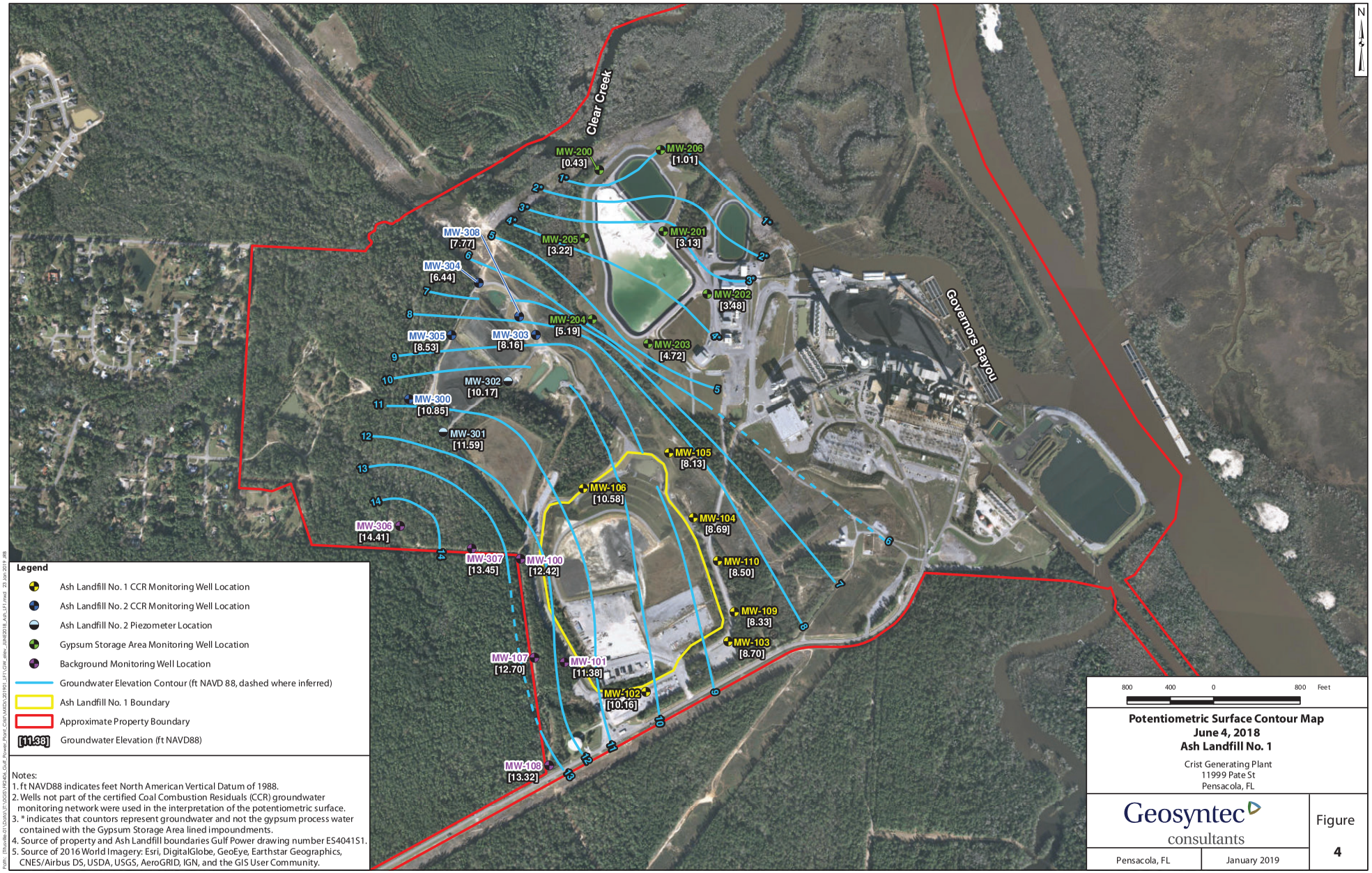
Crist Generating Plant
11999 Pate St
Pensacola, FL

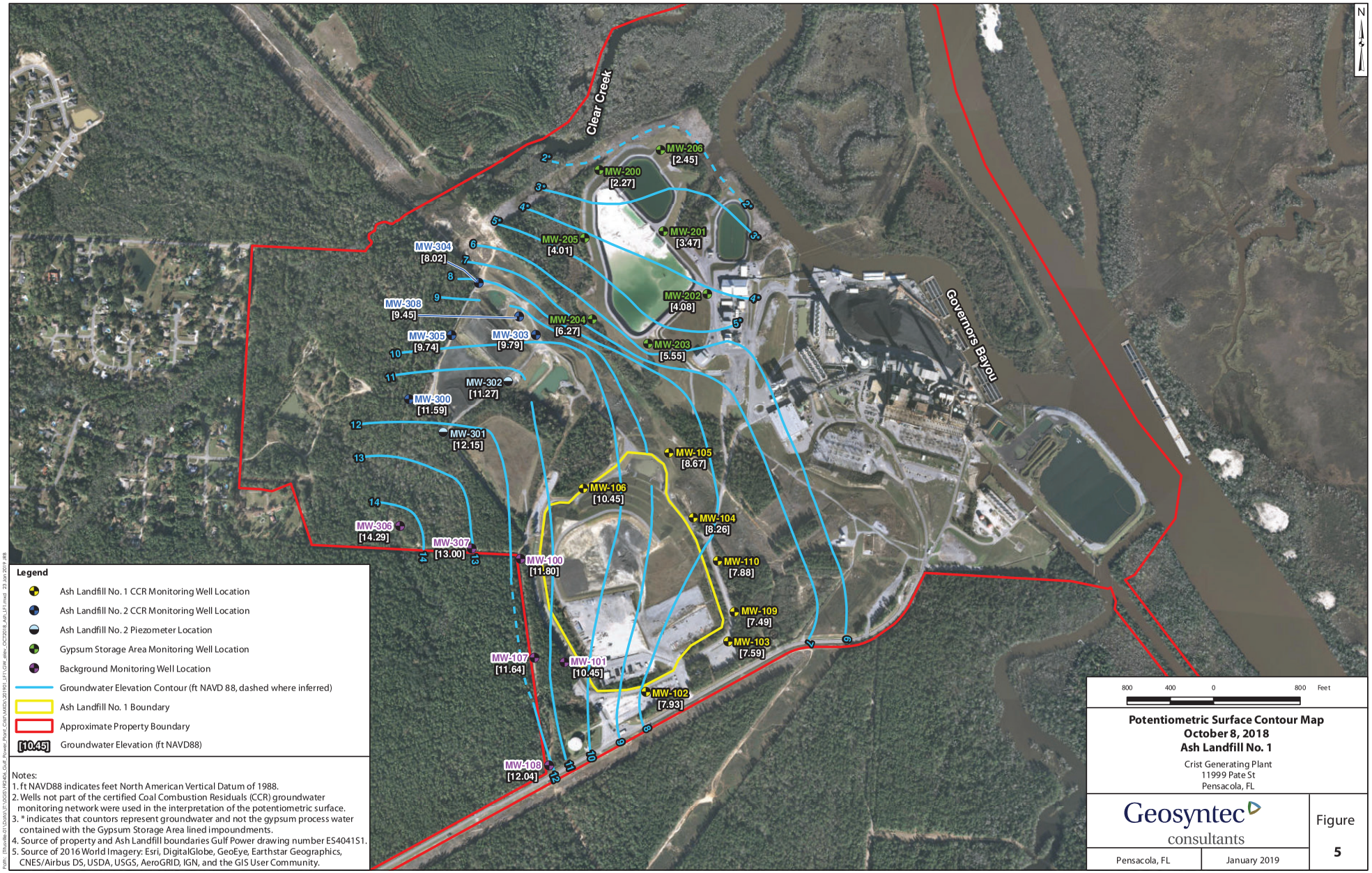
Geosyntec consultants

Pensacola, FL | January 2019

Figure 3

Path: [Thurville-01\Data\JT\GGS\R2404_Gulf_Power_Plant_Crist\MXDs\201901_LF1\GW_delev_MAR2018_LF1.mxd 23 Jan 2019 JRB


Clear Creek
Governors Bayou
N
MW-200 [0.43]
MW-206 [1.01]
MW-201 [3.13]
MW-205 [3.22]
MW-308 [7.77]
MW-304 [6.44]
MW-202 [3.48]
MW-204 [5.19]
MW-305 [8.53]
MW-303 [8.16]
MW-203 [4.72]
MW-302 [10.17]
MW-300 [10.85]
MW-301 [11.59]
MW-105 [8.13]
MW-106 [10.58]
MW-104 [8.69]
MW-306 [14.41]
MW-307 [13.45]
MW-100 [12.42]
MW-110 [8.50]
MW-109 [8.33]
MW-103 [8.70]
MW-107 [12.70]
MW-101 [11.38]
MW-102 [10.16]
MW-108 [13.32]
1*
2*
3*
4*
5
6
7
8
9
10
11
12
13
14
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
[11.38] 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.
800 400 0 800 Feet
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: [Thorville-01\Jobs\JT-\GGS\FR240L_Gulf_Power_Plant_Crist\MXDs\2019\1_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
Date Collected: 03/12/18 11:26
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-1
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
Date Collected: 03/12/18 09:40
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-2
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
Date Collected: 03/12/18 07:56
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-3
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

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	

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

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 Swales
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 #:

Analysis Requested

400-150790 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-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		

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)
Other:

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

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	

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

I rieGt: u f rPwop er I omyaGS
wro/ectRBite: I I M wraGt I rist

TestAmerica Job ID: 400-150790-C
BDu : k acgdrof Gj

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-150790-1	W3 -100	3 ater	02R1CR18 11:C6	02R12R18 14:40
400-150790-C	W3 -107	3 ater	02R1CR18 09:40	02R12R18 14:40
400-150790-2	W3 -108	3 ater	02R1CR18 07:56	02R12R18 14:40
400-150790-4	W3 -206	3 ater	02R1CR18 1C:52	02R12R18 14:40
400-150790-5	W3 -207	3 ater	02R1CR18 15:C1	02R12R18 14:40
400-150790-6	DUw-01	3 ater	02R1CR18 14:C1	02R12R18 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

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

Lab Sample ID: 400-150790-1
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
Date Collected: 03/12/18 09:40
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-2
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
Date Collected: 03/12/18 07:56
Date Received: 03/13/18 14:40

Lab Sample ID: 400-150790-3
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
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/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

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/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

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/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.

Accreditation/Certification Summary

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

TestAmerica Job ID: 400-150790-2
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
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.

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

Lab Sample ID: 400-150861-1
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
Date Collected: 03/14/18 14:17
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-2
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
Date Collected: 03/14/18 17:50
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-3
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: CCj Plant Crist

TestAmerica Job ID: 400-150791-1
SDG: Bankfill 1

Metals

Prep Batch: 390319

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Total j ecoMerable	/ ater	R005A	
400-150791-N	W/ -10N	Total j ecoMerable	/ ater	R005A	
400-150791-R	W/ -10R	Total j ecoMerable	/ ater	R005A	
400-150791-4 - DB	W/ -104	Total j ecoMerable	/ ater	R005A	
400-150791-4	W/ -104	Total j ecoMerable	/ ater	R005A	
400-150791-5	W/ -105	Total j ecoMerable	/ ater	R005A	
400-150791-9	W/ -109	Total j ecoMerable	/ ater	R005A	
400-150791-2	W/ -103	Total j ecoMerable	/ ater	R005A	
400-150791-7 - DB	W/ -110	Total j ecoMerable	/ ater	R005A	
400-150791-7	W/ -110	Total j ecoMerable	/ ater	R005A	
400-150791-3	D8 P-0R	Total j ecoMerable	/ ater	R005A	
400-150791-10	6 U-0R	Total j ecoMerable	/ ater	R005A	
400-150791-11	hU-0R	Total j ecoMerable	/ ater	R005A	
WU 400-R31R93d1-A L5	Wetxok Ulanv	Total j ecoMerable	/ ater	R005A	
BCS 400-R31R93dN-A	Bab Control Sample	Total j ecoMerable	/ ater	R005A	
400-150791-1 WS	W/ -101	Total j ecoMerable	/ ater	R005A	
400-150791-1 WSD	W/ -101	Total j ecoMerable	/ ater	R005A	

Analysis Batch: 39013x

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-N	W/ -10N	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-R	W/ -10R	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-4	W/ -104	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-5	W/ -105	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-9	W/ -109	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-2	W/ -103	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-7	W/ -110	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-3	D8 P-0R	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-10	6 U-0R	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-11	hU-0R	Total j ecoMerable	/ ater	90N0	R31R93
WU 400-R31R93d1-A L5	Wetxok Ulanv	Total j ecoMerable	/ ater	90N0	R31R93
BCS 400-R31R93dN-A	Bab Control Sample	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-1 WS	W/ -101	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-1 WSD	W/ -101	Total j ecoMerable	/ ater	90N0	R31R93

Analysis Batch: 390d5d

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-4 - DB	W/ -104	Total j ecoMerable	/ ater	90N0	R31R93
400-150791-7 - DB	W/ -110	Total j ecoMerable	/ ater	90N0	R31R93

Prep Batch: 396633

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald^ A	/ ater	2420A	
400-150791-N	W/ -10N	Totald^ A	/ ater	2420A	
400-150791-R	W/ -10R	Totald^ A	/ ater	2420A	
400-150791-4	W/ -104	Totald^ A	/ ater	2420A	
400-150791-5	W/ -105	Totald^ A	/ ater	2420A	
400-150791-9	W/ -109	Totald^ A	/ ater	2420A	
400-150791-2	W/ -103	Totald^ A	/ ater	2420A	
400-150791-7	W/ -110	Totald^ A	/ ater	2420A	

QC Association Summary

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

TestAmerica Job ID: 400-150791-1
SDG: Bankfill 1

Metals 2ContinueTG

Prep Batch: 396633 2ContinueTG

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-3	D8 P-0R	Totald\ A	/ ater	2420A	
400-150791-10	6 U-0R	Totald\ A	/ ater	2420A	
400-150791-11	hU-0R	Totald\ A	/ ater	2420A	
WU 400-R3NNRRd14-A	Wetxok Ulanv	Totald\ A	/ ater	2420A	
BCS 400-R3NNRRd15-A	Bab Control Sample	Totald\ A	/ ater	2420A	
400-151R03-A-1-C WS	WatriE Spive	Totald\ A	/ ater	2420A	
400-151R03-A-1-D WSD	WatriE Spive Duplicate	Totald\ A	/ ater	2420A	

Analysis Batch: 396xd3

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald\ A	/ ater	2420A	R3NNRR
400-150791-N	W/ -10N	Totald\ A	/ ater	2420A	R3NNRR
400-150791-R	W/ -10R	Totald\ A	/ ater	2420A	R3NNRR
400-150791-4	W/ -104	Totald\ A	/ ater	2420A	R3NNRR
400-150791-5	W/ -105	Totald\ A	/ ater	2420A	R3NNRR
400-150791-9	W/ -109	Totald\ A	/ ater	2420A	R3NNRR
400-150791-2	W/ -103	Totald\ A	/ ater	2420A	R3NNRR
400-150791-7	W/ -110	Totald\ A	/ ater	2420A	R3NNRR
400-150791-3	D8 P-0R	Totald\ A	/ ater	2420A	R3NNRR
400-150791-10	6 U-0R	Totald\ A	/ ater	2420A	R3NNRR
400-150791-11	hU-0R	Totald\ A	/ ater	2420A	R3NNRR
WU 400-R3NNRRd14-A	Wetxok Ulanv	Totald\ A	/ ater	2420A	R3NNRR
BCS 400-R3NNRRd15-A	Bab Control Sample	Totald\ A	/ ater	2420A	R3NNRR
400-151R03-A-1-C WS	WatriE Spive	Totald\ A	/ ater	2420A	R3NNRR
400-151R03-A-1-D WSD	WatriE Spive Duplicate	Totald\ A	/ ater	2420A	R3NNRR

8 eneral Chemistry

Analysis Batch: 39( ) 90

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald\ A	/ ater	SW N540C	
400-150791-N	W/ -10N	Totald\ A	/ ater	SW N540C	
400-150791-R	W/ -10R	Totald\ A	/ ater	SW N540C	
400-150791-4	W/ -104	Totald\ A	/ ater	SW N540C	
400-150791-5	W/ -105	Totald\ A	/ ater	SW N540C	
400-150791-9	W/ -109	Totald\ A	/ ater	SW N540C	
400-150791-2	W/ -103	Totald\ A	/ ater	SW N540C	
400-150791-7	W/ -110	Totald\ A	/ ater	SW N540C	
400-150791-3	D8 P-0R	Totald\ A	/ ater	SW N540C	
400-150791-10	6 U-0R	Totald\ A	/ ater	SW N540C	
400-150791-11	hU-0R	Totald\ A	/ ater	SW N540C	
WU 400-R30431dl	Wetxok Ulanv	Totald\ A	/ ater	SW N540C	
BCS 400-R30431dN	Bab Control Sample	Totald\ A	/ ater	SW N540C	
400-150791-9 D8	W/ -109	Totald\ A	/ ater	SW N540C	

Analysis Batch: 39(x0d

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-N	W/ -10N	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-R	W/ -10R	Totald\ A	/ ater	SW 4500 Cl- 6	

8 eneral Chemistry 2ContinueTG

Analysis Batch: 39(x0d 2ContinueTG

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-4	W/ -104	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-5	W/ -105	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-9	W/ -109	Totald\ A	/ ater	SW 4500 Cl- 6	
WU 400-R30712d9	Wetxok Ulanv	Totald\ A	/ ater	SW 4500 Cl- 6	
BCS 400-R30712d2	Bab Control Sample	Totald\ A	/ ater	SW 4500 Cl- 6	
Wj B 400-R30712dR	Bab Control Sample	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-1 WS	W/ -101	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-1 WSD	W/ -101	Totald\ A	/ ater	SW 4500 Cl- 6	

Analysis Batch: 390x) d

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-N	W/ -10N	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-R	W/ -10R	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-4	W/ -104	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-5	W/ -105	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-9	W/ -109	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-2	W/ -103	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-7	W/ -110	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-3	D8 P-0R	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-10	6 U-0R	Totald\ A	/ ater	SW 4500 SO4 6	
WU 400-R31742d9	Wetxok Ulanv	Totald\ A	/ ater	SW 4500 SO4 6	
BCS 400-R31742d2	Bab Control Sample	Totald\ A	/ ater	SW 4500 SO4 6	
Wj B 400-R31742dR	Bab Control Sample	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-R WS	W/ -10R	Totald\ A	/ ater	SW 4500 SO4 6	
400-150791-R WSD	W/ -10R	Totald\ A	/ ater	SW 4500 SO4 6	
400-151R90-A-1 WS	WatriE Spive	Totald\ A	/ ater	SW 4500 SO4 6	
400-151R90-A-1 WSD	WatriE Spive Duplicate	Totald\ A	/ ater	SW 4500 SO4 6	

Analysis Batch: 3909dd

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-N	W/ -10N	Totald\ A	/ ater	SW 4500 h C	
400-150791-R	W/ -10R	Totald\ A	/ ater	SW 4500 h C	
400-150791-4	W/ -104	Totald\ A	/ ater	SW 4500 h C	
400-150791-5	W/ -105	Totald\ A	/ ater	SW 4500 h C	
400-150791-9	W/ -109	Totald\ A	/ ater	SW 4500 h C	
400-150791-2	W/ -103	Totald\ A	/ ater	SW 4500 h C	
400-150791-7	W/ -110	Totald\ A	/ ater	SW 4500 h C	
400-150791-3	D8 P-0R	Totald\ A	/ ater	SW 4500 h C	
400-150791-10	6 U-0R	Totald\ A	/ ater	SW 4500 h C	
400-150791-11	hU-0R	Totald\ A	/ ater	SW 4500 h C	
WU 400-R31322dR	Wetxok Ulanv	Totald\ A	/ ater	SW 4500 h C	
BCS 400-R31322d4	Bab Control Sample	Totald\ A	/ ater	SW 4500 h C	
400-150791-4 WS	W/ -104	Totald\ A	/ ater	SW 4500 h C	
400-150791-4 WSD	W/ -104	Totald\ A	/ ater	SW 4500 h C	
400-150791-3 D8	D8 P-0R	Totald\ A	/ ater	SW 4500 h C	

Analysis Batch: 396(01

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald\ A	/ ater	SW 4500 h C	
WU 400-R3N019dR	Wetxok Ulanv	Totald\ A	/ ater	SW 4500 h C	

QC Association Summary

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

TestAmerica Job ID: 400-150791-1
SDG: Bankfill 1

8 eneral Chemistry 2ContinueTG

Analysis Batch: 396(01 2ContinueTG

7a4 Sample Lb	Client Sample Lb	Prep I ype	MatriD	MethoT	Prep Batch
BCS 400-R3N019d4	Bab Control Sample	Totald\ A	/ ater	SW 4500 h C	
990-79N0R-C-4 WS	WatriE Spive	Totald\ A	/ ater	SW 4500 h C	
990-79N0R-C-4 WSD	WatriE Spive Duplicate	Totald\ A	/ ater	SW 4500 h C	

Analysis Batch: 39630)

7a4 Sample Lb	Client Sample Lb	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-2	W/ -103	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-7	W/ -110	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-3	D8 P-0R	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-10	6 U-0R	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-11	hU-0R	Totald\ A	/ ater	SW 4500 Cl- 6	
WU 400-R3NR14d9	Wetxok Ulanv	Totald\ A	/ ater	SW 4500 Cl- 6	
BCS 400-R3NR14d2	Bab Control Sample	Totald\ A	/ ater	SW 4500 Cl- 6	
Wj B 400-R3NR14dR	Bab Control Sample	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-2 WS	W/ -103	Totald\ A	/ ater	SW 4500 Cl- 6	
400-150791-2 WSD	W/ -103	Totald\ A	/ ater	SW 4500 Cl- 6	

Analysis Batch: 396) 9(

7a4 Sample Lb	Client Sample Lb	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-11	hU-0R	Totald\ A	/ ater	SW 4500 SO4 6	
WU 400-R3N430d9	Wetxok Ulanv	Totald\ A	/ ater	SW 4500 SO4 6	
BCS 400-R3N430d2	Bab Control Sample	Totald\ A	/ ater	SW 4500 SO4 6	
Wj B 400-R3N430dR	Bab Control Sample	Totald\ A	/ ater	SW 4500 SO4 6	
400-151411-6-1 WS	WatriE Spive	Totald\ A	/ ater	SW 4500 SO4 6	
400-151411-6-1 WSD	WatriE Spive Duplicate	Totald\ A	/ ater	SW 4500 SO4 6	

FielT Service / Mo4ile 7a4

Analysis Batch: 3935d5

7a4 Sample Lb	Client Sample Lb	Prep I ype	MatriD	MethoT	Prep Batch
400-150791-1	W/ -101	Totald\ A	/ ater	hielk SamplinF	
400-150791-N	W/ -10N	Totald\ A	/ ater	hielk SamplinF	
400-150791-R	W/ -10R	Totald\ A	/ ater	hielk SamplinF	
400-150791-4	W/ -104	Totald\ A	/ ater	hielk SamplinF	
400-150791-5	W/ -105	Totald\ A	/ ater	hielk SamplinF	
400-150791-9	W/ -109	Totald\ A	/ ater	hielk SamplinF	
400-150791-2	W/ -103	Totald\ A	/ ater	hielk SamplinF	
400-150791-7	W/ -110	Totald\ A	/ ater	hielk SamplinF	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-395369/5-7 1A
Mat^ir : x ate^
7 nalTsis Batyh: 39563v

Client Sample ID: Method Blank
P^ep WTpe: Wbtal Reyoce^able
P^ep Batyh: 395369

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
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 400-395369/2-7
Mat^ir : x ate^
7 nalTsis Batyh: 39563v

Client Sample ID: Lab Cont^ol Sample
P^ep WTpe: Wbtal Reyoce^able
P^ep Batyh: 395369

7 nalTte	Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. 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: 400-5A0v65-5 MS
Mat^ir : x ate^
7 nalTsis Batyh: 39563v

Client Sample ID: Mx -505
P^ep WTpe: Wbtal Reyoce^able
P^ep Batyh: 395369

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. 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: 400-5A0v65-5 MS — **Client Sample ID: Mx -505**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal Reyoce^able**
7 nalTsis Batyh: 39563v — **P^ep Batyh: 395369**

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. 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: 400-5A0v65-5 MSD — **Client Sample ID: Mx -505**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal Reyoce^able**
7 nalTsis Batyh: 39563v — **P^ep Batyh: 395369**

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. 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: V4V07 - Me^yu^T (CN7 7)

Lab Sample ID: MB 400-392233/54-7 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392vV3 — **P^ep Batyh: 392233**

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
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 400-392233/5A-7 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392vV3 — **P^ep Batyh: 392233**

7 nalTte	Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits
Mercury	0.00101	0.00114		mg/L		114	80 - 120

Lab Sample ID: 400-5A5309-7 -5-C MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392vV3 — **P^ep Batyh: 392233**

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits
Mercury	0.000070	U	0.00201	0.00228		mg/L		113	80 - 120

QC Sample Results

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

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

Lab Sample ID: 400-5A5309-7 -5-D MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392vV3 — **P^ep Batyh: 392233**

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00215		mg/L		107	80 - 120	6	20

Method: SM 2A40C - Solids, Wbtal Dissolced (WDS)

Lab Sample ID: MB 400-390495/5 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 390495

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			03/17/18 17:26	1

Lab Sample ID: LCS 400-390495/2 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 390495

7 nalTte			Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Total Dissolved Solids			293	288		mg/L		98	78 - 122		

Lab Sample ID: 400-5A0v65-6 DU — **Client Sample ID: Mx -506**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 390495

7 nalTte	Sample Result	Sample Qualifie^		DU Result	DU Qualifie^	Unit	D			RPD	RPD Limit
Total Dissolved Solids	3.4	U		3.4	U	mg/L				NC	5

Method: SM 4A00 Cl- E - Chlo^ide, Wbtal

Lab Sample ID: MB 400-390v5V/6 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 390v5V

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Chloride	0.60	U	2.0	0.60	mg/L			03/20/18 14:48	1

Lab Sample ID: LCS 400-390v5V/V — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 390v5V

7 nalTte			Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Chloride			30.0	30.4		mg/L		101	90 - 110		

Lab Sample ID: MRL 400-390v5V/3 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 390v5V

7 nalTte			Spike 7 dded	MRL Result	MRL Qualifie^	Unit	D	%Rey	%Rey. Limits		
Chloride			2.00	1.81	I	mg/L		90	50 - 150		

Method: SM 4A00 Cl- E - Chlo^ide, Wotal (Continued)

Lab Sample ID: 400-5A0v65-5 MS — **Client Sample ID: Mx -505**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 390v5V

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Chloride	5.2		10.0	4.89	J3	mg/L		-3	73 - 120		

Lab Sample ID: 400-5A0v65-5 MSD — **Client Sample ID: Mx -505**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 390v5V

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Chloride	5.2		10.0	4.63	J3	mg/L		-5	73 - 120	6	8

Lab Sample ID: MB 400-392354/6 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 392354

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Chloride	1.54	I	2.0	0.60	mg/L			04/02/18 09:28	1

Lab Sample ID: LCS 400-392354/V — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 392354

7 nalTte			Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Chloride			30.0	31.3		mg/L		104	90 - 110		

Lab Sample ID: MRL 400-392354/3 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 392354

7 nalTte			Spike 7 dded	MRL Result	MRL Qualifie^	Unit	D	%Rey	%Rey. Limits		
Chloride			2.00	2.63		mg/L		131	50 - 150		

Lab Sample ID: 400-5A0v65-V MS — **Client Sample ID: Mx -509**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 392354

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Chloride	6.9	V	10.0	17.2		mg/L		103	73 - 120		

Lab Sample ID: 400-5A0v65-V MSD — **Client Sample ID: Mx -509**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/8 7**
7 nalTsis Batyh: 392354

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Chloride	6.9	V	10.0	17.1		mg/L		101	73 - 120	1	8

QC Sample Results

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

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

Method: SM 4A00 F C - Fluo^ide

Lab Sample ID: MB 400-3959W/3 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 3959W

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 09:56	1

Lab Sample ID: LCS 400-3959W/4 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 3959W

7 nalTte			Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 400-5A0v65-4 MS — **Client Sample ID: Mx -504**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 3959W

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Fluoride	0.30		1.00	1.24		mg/L		94	75 - 125		

Lab Sample ID: 400-5A0v65-4 MSD — **Client Sample ID: Mx -504**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 3959W

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Fluoride	0.30		1.00	1.24		mg/L		94	75 - 125	0	4

Lab Sample ID: 400-5A0v65-9 DU — **Client Sample ID: DUP-03**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 3959W

7 nalTte	Sample Result	Sample Qualifie^		DU Result	DU Qualifie^	Unit	D			RPD	RPD Limit
Fluoride	0.032	U		0.032	U	mg/L				NC	4

Lab Sample ID: MB 400-392056/3 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392056

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Fluoride	0.032	U	0.10	0.032	mg/L			03/29/18 12:46	1

Lab Sample ID: LCS 400-392056/4 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392056

7 nalTte			Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Fluoride			4.00	4.18		mg/L		105	90 - 110		

Lab Sample ID: 660-v6203-C-4 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392056

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits		
Fluoride	0.12		1.00	1.21		mg/L		109	75 - 125		

QC Sample Results

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

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

Lab Sample ID: 660-v6203-C-4 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392056

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Fluoride	0.12		1.00	1.21		mg/L		109	75 - 125	0	4

Method: SM 4A00 SO4 E - Sulfate, Wbtal

Lab Sample ID: MB 400-395v4V/6 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Sulfate	1.4	U	5.0	1.4	mg/L			03/28/18 11:24	1

Lab Sample ID: LCS 400-395v4V/V — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	15.0	14.8		mg/L		99	90 - 110

Lab Sample ID: MRL 400-395v4V/3 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	Spike 7 dded	MRL Result	MRL Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	5.00	4.53	I	mg/L		91	50 - 150

Lab Sample ID: 400-5A0v65-3 MS — **Client Sample ID: Mx -503**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	38		20.0	45.6	J3	mg/L		40	77 - 128

Lab Sample ID: 400-5A0v65-3 MSD — **Client Sample ID: Mx -503**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Sulfate	38		20.0	44.6	J3	mg/L		35	77 - 128	2	5

Lab Sample ID: 400-5A5360-7 -5 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	5.1		10.0	16.7		mg/L		116	77 - 128

Method: SM 4A00 SO4 E - Sulfate, Wbtal (Continued)

Lab Sample ID: 400-5A5360-7 -5 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 395v4V

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. 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**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392490

7 nalTte	MB Result	MB Qualifie^	PQL	MDL	Unit	D	P^epa^ed	7 nalTzed	Dil Fay
Sulfate	1.4	U	5.0	1.4	mg/L			04/03/18 09:42	1

Lab Sample ID: LCS 400-392490/V — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392490

7 nalTte	Spike 7 dded	LCS Result	LCS Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	15.0	14.9		mg/L		99	90 - 110

Lab Sample ID: MRL 400-392490/3 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392490

7 nalTte	Spike 7 dded	MRL Result	MRL Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	5.00	4.54	I	mg/L		91	50 - 150

Lab Sample ID: 400-5A5455-E-5 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392490

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MS Result	MS Qualifie^	Unit	D	%Rey	%Rey. Limits
Sulfate	1.4	U	10.0	8.54		mg/L		85	77 - 128

Lab Sample ID: 400-5A5455-E-5 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/8 7**
7 nalTsis Batyh: 392490

7 nalTte	Sample Result	Sample Qualifie^	Spike 7 dded	MSD Result	MSD Qualifie^	Unit	D	%Rey	%Rey. 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

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
	3-14-18 1830	SOUTHERN		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:

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: 400-150791-1
SDG: Bankfill 1

Laboratory: TestAmerica Pensacola

All accrekitations/certifications gelk by tgis laboratory are listekd h ot all accrekitations/certifications are applicable to tgis reportd

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Pro. ram	4	40150	09-N0-17
Ari6ona	State Pro. ram	3	A80z10	01-1Z-13
Ar2ansas DEQ	State Pro. ram	9	77-0973	03-01-17
California	EBAP	3	Z510	0N-N1-17 L
* lorika	h EBAP	4	E71010	09-N0-17
Geor. ia	State Pro. ram	4	h /A	09-N0-17
Illinois	h EBAP	5	Z00041	10-03-17
Iowa	State Pro. ram	z	N9z	07-01-17
Fansas	h EBAP	z	E-10Z5N	10-N1-17
Fentuc2y K(STU	State Pro. ram	4	5N	09-N0-17
Fentuc2y K)) U	State Pro. ram	4	370N0	1Z-N1-17
B-A-W	ISO/IEC 1z0Z5		BZ4z1	0Z-ZZ-Z0
Bouisiana	h EBAP	9	N03z9	09-N0-17
Bouisiana KD) U	h EBAP	9	BA1z0005	1Z-N1-17
Marylank	State Pro. ram	N	ZNN	03-N0-17
Massacgusetts	State Pro. ram	1	M-* B034	09-N0-17
Micgi. an	State Pro. ram	5	331Z	09-N0-17
h ew Jersey	h EBAP	Z	* B009	09-N0-17
h ortg Carolina K)) /S) U	State Pro. ram	4	N14	1Z-N1-17
O2lagoma	State Pro. ram	9	3710	07-N1-17
Pennsylvania	h EBAP	N	97-0049z	01-N1-13
Rgoke Islank	State Pro. ram	1	BAO00N0z	1Z-N0-17
Soutg Carolina	State Pro. ram	4	390Z9	09-N0-17
Tennessee	State Pro. ram	4	Th 0Z30z	09-N0-17
Texas	h EBAP	9	T104z04Z79-1z-1Z	03-N0-17
(SDA	* ekeral		PNN0-19-001zZ	05-Z4-13
Vir. inia	h EBAP	N	490199	09-14-17
) asgin. ton	State Pro. ram	10	C315	05-15-17
) est Vir. inia DEP	State Pro. ram	N	1N9	09-N0-17

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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: 400-150861-2
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

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 17
Chronicle 18
QC Association 21
QC Sample Results 22
Chain of Custody 24
Receipt Checklists 25
Certification Summary 27

Job ID: 400-150861-2

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-150861-1	W3 -101	3 ater	02R14R18 08:46	02R14R18 18:20
400-150861-C	W3 -10C	3 ater	02R14R18 14:17	02R14R18 18:20
400-150861-2	W3 -102	3 ater	02R14R18 17:50	02R14R18 18:20
400-150861-4	W3 -104	3 ater	02R14R18 15:55	02R14R18 18:20
400-150861-5	W3 -105	3 ater	02R14R18 1C:45	02R14R18 18:20
400-150861-6	W3 -106	3 ater	02R14R18 10:2C	02R14R18 18:20
400-150861-7	W3 -109	3 ater	02R14R18 16:C2	02R14R18 18:20
400-150861-8	W3 -110	3 ater	02R14R18 14:28	02R14R18 18:20
400-150861-9	DUw-02	3 ater	02R14R18 11:45	02R14R18 18:20
400-150861-10	EB-02	3 ater	02R14R18 15:45	02R14R18 18:20
400-150861-11	FB-02	3 ater	02R14R18 1C:00	02R14R18 18:20

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*	*03/16/18 10:36*	*04/10/18 0:58*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.337		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*	*03/16/18 10:37*	*03/57/18 1:00*	*1*
. Carrier	*632*		*40 - 110*	*03/16/18 10:37*	*03/57/18 1:00*	*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	*68 23*		*40 - 110*	*03/16/18 10 9 36*	*04/10/18 0: 9 58*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	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	*68 23*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 9 00*	*1*
. Carrier	*602*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 9 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	*672*		*40 - 110*	*03/16/18 109936*	*04/10/18 0: 958*	*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	*672*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 900*	*1*
. Carrier	*652Y*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 900*	*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	*6Y21*		*40 - 110*	*03/16/18 109:36*	*04/10/18 0: 956*	*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	*6Y21*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 901*	*1*
. Carrier	*6125*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 901*	*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	*66 21*		*40 - 110*	*03/16/18 10 9 36*	*04/10/18 0: 9 56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	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	*66 21*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 9 01*	*1*
. Carrier	*63 21*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 9 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*	*03/16/18 109936*	*04/10/18 0: 956*	*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*	*03/16/18 109 7*	*03/57/18 1: 901*	*1*
. Carrier	*652Y*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 901*	*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	*682*		*40 - 110*	*03/16/18 109936*	*04/10/18 0: 956*	*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	*682*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 901*	*1*
. Carrier	*652Y*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 901*	*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	*66*	*21*	*40 - 110*	*03/16/18 10:36*	*04/10/18 0: 56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	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	*66*	*21*	*40 - 110*	*03/16/18 10 7*	*03/57/18 1: 01*	*1*
. Carrier	*63*	*21*	*40 - 110*	*03/16/18 10 7*	*03/57/18 1: 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*	*03/16/18 109:36*	*04/10/18 0: 956*	*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*	*03/16/18 109 7*	*03/57/18 1: 901*	*1*
. Carrier	*652Y*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 901*	*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	*6: 26*		*40 - 110*	*03/16/18 109 36*	*04/10/18 0: 956*	*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	*6: 26*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 905*	*1*
. Carrier	*6125*		*40 - 110*	*03/16/18 109 7*	*03/57/18 1: 905*	*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	*68.25*		*40 - 110*	*03/16/18 10:36*	*04/10/18 0:56*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.686**		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	*68.25*		*40 - 110*	*03/16/18 10:37*	*03/57/18 1:05*	*1*
. Carrier	*6: 2Y*		*40 - 110*	*03/16/18 10:37*	*03/57/18 1:05*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.735**		0.268	0.276	5.00	0.371	pCi/L		04/10/18 14:48	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
Date Collected: 03/14/18 08:46
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-1
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
Date Collected: 03/14/18 14:17
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-2
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
Date Collected: 03/14/18 17:50
Date Received: 03/14/18 18:30

Lab Sample ID: 400-150861-3
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
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/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

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: 400-150861-2
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: 400-150791-2
SDG: Bankfill 1

Laboratory: TestAmerica Pensacola

All accrekitations/certifications gelk by tgis laboratory are listekd h ot all accrekitations/certifications are applicable to tgis reportd

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Pro. ram	4	40150	09-N0-17
Ari6ona	State Pro. ram	3	A80z10	01-12-13
ArZansas DEQ	State Pro. ram	9	77-0973	03-01-17
California	EBAP	3	2510	0N-N1-17 L
* lorika	h EBAP	4	E71010	09-N0-17
Geor. ia	State Pro. ram	4	h /A	09-N0-17
Illinois	h EBAP	5	200041	10-03-17
Iowa	State Pro. ram	z	N9z	07-01-17
Fansas	h EBAP	z	E-1025N	10-N1-17
FentucZy K(STU	State Pro. ram	4	5N	09-N0-17
FentucZy K)) U	State Pro. ram	4	370N0	12-N1-17
B-A-W	ISO/IEC 1z025		B24z1	02-22-20
Bouisiana	h EBAP	9	N03z9	09-N0-17
Bouisiana KD) U	h EBAP	9	BA1z0005	12-N1-17
Marylank	State Pro. ram	N	2NN	03-N0-17
Massacgusetts	State Pro. ram	1	M-* B034	09-N0-17
Micgi. an	State Pro. ram	5	3312	09-N0-17
h ew Jersey	h EBAP	2	* B009	09-N0-17
h ortg Carolina K)) /S) U	State Pro. ram	4	N14	12-N1-17
OZlagoma	State Pro. ram	9	3710	07-N1-17
Pennsylvania	h EBAP	N	97-0049z	01-N1-13
Rgoke Islank	State Pro. ram	1	BAO00N0z	12-N0-17
Soutg Carolina	State Pro. ram	4	39029	09-N0-17
Tennessee	State Pro. ram	4	Th 0230z	09-N0-17
Texas	h EBAP	9	T104z04279-1z-12	03-N0-17
(SDA	* ekeral		PNN0-19-001z2	05-24-13
Vir. inia	h EBAP	N	490199	09-14-17
) asgin. ton	State Pro. ram	10	C315	05-15-17
) est Vir. inia DEP	State Pro. ram	N	1N9	09-N0-17

Laboratory: TestAmerica St. Louis

All accrekitations/certifications gelk by tgis laboratory are listekd h ot all accrekitations/certifications are applicable to tgis reportd

Authority	Program	EPA Region	Identification Number	Expiration Date
AlasZa	State Pro. ram	10	MO00054	09-N0-17
Ari6ona	State Pro. ram	3	A8071N	12-07-17
Connecticut	State Pro. ram	1	PH-0241	0N-N1-13
* lorika	h EBAP	4	E7z973	09-N0-17
Illinois	h EBAP	5	20002N	11-N0-17
Iowa	State Pro. ram	z	NzN	12-01-17
Fansas	h EBAP	z	E-102N9	10-N1-17
FentucZy KD) U	State Pro. ram	4	30125	12-N1-17
B-A-W	DoD EBAP		B2N05	04-09-13
Bouisiana	h EBAP	9	04070	09-N0-17
Bouisiana KD) U	h EBAP	9	BA17001z	12-N1-17
Marylank	State Pro. ram	N	N10	03-N0-17
Micgi. an	State Pro. ram	5	3005	09-N0-17
Missouri	State Pro. ram	z	z70	09-N0-17
h evaka	State Pro. ram	3	MO000542017-1	0z-N1-17
h ew Jersey	h EBAP	2	MO002	09-N0-17 L

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Laboratory: TestAmerica St. Louis (Continued)

All accrekitations/certifications gelk by tgis laboratory are listekd h ot all accrekitations/certifications are applicable to tgis reportd

Authority	Program	EPA Region	Identification Number	Expiration Date
h ew YorZ	h EBAP	2	11919	0N-N1-13
h ortg DaZota	State Pro. ram	7	R20z	09-N0-17
h RC	h RC		24-2471z-01	12-N1-22
OZlagoma	State Pro. ram	9	333z	07-N1-17
Pennsylvania	h EBAP	N	97-00540	02-27-13
Soutg Carolina	State Pro. ram	4	75002001	09-N0-17
Texas	h EBAP	9	T104z0413N-1z-11	0z-N1-17
(S * isg &) ilklife	* ekeral		057447	07-N1-17
(SDA	* ekeral		PNN0-1z-0027	02-02-20
(tag	h EBAP	7	MO000542019-7	0z-N1-17
Vir. inia	h EBAP	N	4902N0	09-14-17
) asgin. ton	State Pro. ram	10	C532	07-N0-17
) est Vir. inia DEP	State Pro. ram	N	N71	07-N1-17 L

L Accrekitation/Certification renewal penkin. - accrekitation/certification consikerek valikd

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

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 0-6ºC, 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

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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:
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Pensacola, Florida 32520

Attn: Kristi Mitchell

Authorized for release by:
7/16/2018 4:41:56 PM

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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 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	*7: .3*		*40 - 110*	*03/16/18 089 1*	*05/03/18 179 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	*7: .3*		*40 - 110*	*03/16/18 079 13*	*05/03/18 119 6*	*1*
2 Carrier	*88.3*		*40 - 110*	*03/16/18 079 13*	*05/03/18 119 6*	*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	*7Y.7*		*40 - 110*	*03/16/18 089 1*	*05/03/18 179 4*	*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	*7Y.7*		*40 - 110*	*03/16/18 079 3*	*05/03/18 119 6*	*1*
2 Carrier	*86.5*		*40 - 110*	*03/16/18 079 3*	*05/03/18 119 6*	*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	*76.:*		*40 - 110*	*03/16/18 089 1*	*05/03/18 1794:*	*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	*76.:*		*40 - 110*	*03/16/18 0791 3*	*05/03/18 119 :*	*1*
2 Carrier	*87.5*		*40 - 110*	*03/16/18 0791 3*	*05/03/18 119 :*	*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	*75.1*		*40 - 110*	*03/16/18 089 1*	*05/03/18 179:4:*	*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	*75.1*		*40 - 110*	*03/16/18 079 3*	*05/03/18 119 :*	*1*
2 Carrier	*70.1*		*40 - 110*	*03/16/18 079 3*	*05/03/18 119 :*	*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	*75.7*		*40 - 110*	*03/16/18 089 1*	*05/03/18 1794:*	*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	*75.7*		*40 - 110*	*03/16/18 0791 3*	*05/03/18 119 :*	*1*
2 Carrier	*81.1*		*40 - 110*	*03/16/18 0791 3*	*05/03/18 119 :*	*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

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
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: Background

Sampler: Brett Sukes
Phone: 850 380 2458
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 #:

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.

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: 400-154909-1
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: 400-154808-1

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-10T — Lab Sample ID: 400-154808-T

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-102 — Lab Sample ID: 400-154808-2

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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: 400-154808-4

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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 3Continueh(— Lab Sample ID: 400-154808-4

Qnalyte	AeRult	Pualisier	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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: 400-154808-5

Qnalyte	AeRult	Pualisier	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-10) — Lab Sample ID: 400-154808-)

Qnalyte	AeRult	Pualisier	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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.

TestAmerica Pensacola

Detection Summary

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Client Sample ID: MW-10) 3Continueh(— Lab Sample ID: 400-154808-)

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-108 — Lab Sample ID: 400-154808-9

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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: 400-154808-7

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-02 — Lab Sample ID: 400-154808-8

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
Boron	0.040	I	0.050	0.021	mg/L	5		6020	Total Recoverable

Client Sample ID: UB-02 — Lab Sample ID: 400-154808-10

No Detections.

Client Sample ID: Df 6-04 — Lab Sample ID: 400-154808-11

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-T01 — Lab Sample ID: 400-154808-1T

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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-T0T — Lab Sample ID: 400-154808-12

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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: Df 6-02 — Lab Sample ID: 400-154808-14

Qnalyte	AeRult	Pualiser	6PL	MDL	f nit	Dil Uac	D	MetFoh	6rep dype
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: UB-02 — Lab Sample ID: 400-154808-15

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

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f rodectjy ite: 6 6 / f Cal t 6 rist

TestAmerica Job ID: 400-154808-1
y Dn : Sal LuiC1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154808-1	RM-101	Mater	0Wj10j13 0W48	0Wj11j13 14:02
400-154808-2	RM-102	Mater	0Wj11j13 12:4W	0Wj11j13 14:02
400-154808-7	RM-107	Mater	0Wj11j13 03:18	0Wj11j13 14:02
400-154808-4	RM-104	Mater	0Wj10j13 10:29	0Wj11j13 14:02
400-154808-5	RM-105	Mater	0Wj10j13 03:59	0Wj11j13 14:02
400-154808-W	RM-10W	Mater	0Wj10j13 09:58	0Wj11j13 14:02
400-154808-9	RM-108	Mater	0Wj11j13 11:71	0Wj11j13 14:02
400-154808-3	RM-110	Mater	0Wj11j13 10:12	0Wj11j13 14:02
400-154808-8	UE-07	Mater	0Wj10j13 10:50	0Wj11j13 14:02
400-154808-10	BE-07	Mater	0Wj11j13 08:00	0Wj11j13 14:02
400-154808-11	DFf -04	Mater	0Wj10j13 09:59	0Wj11j13 14:02
400-154808-12	RM-201	Mater	0Wj08j13 10:13	0Wj11j13 14:02
400-154808-17	RM-202	Mater	0Wj08j13 11:58	0Wj11j13 14:02
400-154808-14	DFf -07	Mater	0Wj08j13 10:58	0Wj11j13 14:02
400-154808-15	BE-07	Mater	0Wj08j13 10:00	0Wj11j13 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	*10:*		*40 - 110*	*03/13/16 18913*	*0: /11/16 05945*	*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	*10:*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14940*	*1*
. Carrier	*6623*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14940*	*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	*107*		*40 - 110*	*03/13/16 18913*	*0: /11/16 05945*	*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	*107*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14940*	*1*
. Carrier	*6623*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14940*	*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	*107*		*40 - 110*	*03/13/16 18913*	*0: /11/16 05945*	*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	*107*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14940*	*1*
. Carrier	*6523*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14940*	*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*	*03/13/16 18913*	*0: /11/16 05945*	*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*	*03/13/16 17910*	*0: /10/16 14941*	*1*
. Carrier	*Y827*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14941*	*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	*107*		*40 - 110*	*03/13/16 18913*	*0: /11/16 05945*	*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	*107*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14948*	*1*
. Carrier	*6523*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14948*	*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*	*03/13/16 18913*	*0: /11/16 05945*	*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*	*03/13/16 17910*	*0: /10/16 14948*	*1*
. Carrier	*6Y2*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14948*	*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	*103*		*40 - 110*	*03/13/16 18913*	*0: /11/16 05943*	*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	*103*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14947*	*1*
. Carrier	*6Y27*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14947*	*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	*103*		*40 - 110*	*03/13/16 18:13*	*07/11/16 05:43*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**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	*103*		*40 - 110*	*03/13/16 17:10*	*07/10/16 14:47*	*1*
. Carrier	*Y123*		*40 - 110*	*03/13/16 17:10*	*07/10/16 14:47*	*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	*103*		*40 - 110*	*03/13/16 18913*	*0: /11/16 0594:*	*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	*103*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14947*	*1*
. Carrier	*Y021*		*40 - 110*	*03/13/16 17910*	*0: /10/16 14947*	*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	*107*		*40 - 110*	*03/13/16 1891 3*	*0: /11/16 0594:*	*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	*107*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*1*
. Carrier	*632*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*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	*108*		*40 - 110*	*03/13/16 1891 3*	*0: /11/16 0594 Y*	*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	*108*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*1*
. Carrier	*632*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*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*	*03/13/16 18913*	*0: /11/16 0594Y*	*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*	*03/13/16 17910*	*0: /10/16 1494 7*	*1*
. Carrier	*652 3*		*40 - 110*	*03/13/16 17910*	*0: /10/16 1494 7*	*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*	*03/13/16 1891 3*	*0: /11/16 0594 Y*	*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*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*1*
. Carrier	*Y026*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*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	*Y523*		*40 - 110*	*03/13/16 18913*	*0: /11/16 0594Y*	*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	*Y523*		*40 - 110*	*03/13/16 17910*	*0: /10/16 1494*7	*1*
. Carrier	*6623*		*40 - 110*	*03/13/16 17910*	*0: /10/16 1494*7	*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	*103*		*40 - 110*	*03/13/16 1891 3*	*0: /11/16 0594 Y*	*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	*103*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*1*
. Carrier	*6Y27*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 7*	*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

Date Collectex: 0d3l03l/ 0d:48
Date Receivex: 0d3l13l/ 14:0T

Lab Sample ID: 400-154808-1

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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-10T

Date Collectex: 0d3l13l/ 1T:4d
Date Receivex: 0d3l13l/ 14:0T

Lab Sample ID: 400-154808-T

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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-107

Lab Sample ID: 400-154808-7

Date Collectex: 0d31131/ 0/ :18

Matri6: Water

Date Receivex: 0d31131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: 400-154808-4

Date Collectex: 0d31031/ 10:T9

Matri6: Water

Date Receivex: 0d31131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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

Client Sample ID: MW-105

Date Collectex: 0d31031/ 0/ :59
Date Receivex: 0d31131/ 14:0T

Lab Sample ID: 400-154808-5

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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-10d

Date Collectex: 0d31031/ 09:58
Date Receivex: 0d31131/ 14:0T

Lab Sample ID: 400-154808-d

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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-108

Lab Sample ID: 400-154808-9

Date Collectex: 0d31131/ 11:71
Matri6: Water
Date Receivex: 0d31131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: 400-154808-/

Date Collectex: 0d31131/ 10:1T
Matri6: Water
Date Receivex: 0d31131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: UP-07

Date Collectex: 0d3l03l/ 10:50
Date Receivex: 0d3l13l/ 14:0T

Lab Sample ID: 400-154808-8

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: 2P-07

Date Collectex: 0d3l13l/ 08:00
Date Receivex: 0d3l13l/ 14:0T

Lab Sample ID: 400-154808-10

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: DEA-04

Date Collectex: 0d3l03l/ 09:59
Date Receivex: 0d3l13l/ 14:0T

Lab Sample ID: 400-154808-11

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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

Client Sample ID: DEA-04

Lab Sample ID: 400-154808-11

Date Collectex: 0d3 1031/ 09:59

Matri6: Water

Date Receivex: 0d3 1131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or s nalBNex	s nalBut	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-T01

Lab Sample ID: 400-154808-1T

Date Collectex: 0d3 0831/ 10:1/

Matri6: Water

Date Receivex: 0d3 1131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or s nalBNex	s nalBut	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-T0T

Lab Sample ID: 400-154808-17

Date Collectex: 0d3 0831/ 11:58

Matri6: Water

Date Receivex: 0d3 1131/ 14:0T

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or s nalBNex	s nalBut	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-T0T

Date Collectex: 0d30831/ 11:58
Date Receivex: 0d31131/ 14:0T

Lab Sample ID: 400-154808-17

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: DEA-07

Date Collectex: 0d30831/ 10:58
Date Receivex: 0d31131/ 14:0T

Lab Sample ID: 400-154808-14

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: 2P-07

Date Collectex: 0d30831/ 10:00
Date Receivex: 0d31131/ 14:0T

Lab Sample ID: 400-154808-15

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or snalBNex	snalBut	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: 2P-07

Date Collectex: 0d3 083 1/ 10:00
Date Receivex: 0d3 1 13 1/ 14:0T

Lab Sample ID: 400-154808-15

Matri6: Water

Arep yBpe	Patch yBpe	Patch Methox	Rzn	Dilztion 2actor	Patch Fzmber	Areparex or s nalBNex	s nalBut	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

LaboratorB Referenceu:

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

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

Metals

Prep Batch: 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 400-402016/9-3 A^
Mat5ir : x ate5
3 nalTsis Batyh: 402v44

Client Sample ID: Method Blank
P5ep WTpe: Wotal Reyoce5able
P5ep Batyh: 402016

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
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 400-402016/2-3
Mat5ir : x ate5
3 nalTsis Batyh: 402v44

Client Sample ID: Lab Cont5ol Sample
P5ep WTpe: Wotal Reyoce5able
P5ep Batyh: 402016

3 nalTte	Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. 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: 400-9^^v70-3 -9-B MS A^
Mat5ir : x ate5
3 nalTsis Batyh: 402v44

Client Sample ID: Mat5ir Spike
P5ep WTpe: Wotal Reyoce5able
P5ep Batyh: 402016

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. 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: 400-9^^v70-3 -9-B MS A^ — **Client Sample ID: Mat5ir Spike**
Mat5ir : x ate5 — **P5ep WTpe: Wotal Reyoce5able**
3 nalTsis Batyh: 402v44 — **P5ep Batyh: 402016**

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. 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: 400-9^^v70-3 -9-C MSD A^ — **Client Sample ID: Mat5ir Spike Dupliyate**
Mat5ir : x ate5 — **P5ep WTpe: Wotal Reyoce5able**
3 nalTsis Batyh: 402v44 — **P5ep Batyh: 402016**

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MSD Result	MSD Qualifie5	Unit	D	%Rey	%Rey. 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: 74703 - Me5yu5T (CV3 3)

Lab Sample ID: MB 400-402447/94-3 — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 4027^7 — **P5ep Batyh: 402447**

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
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 400-402447/9^-3 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 4027^7 — **P5ep Batyh: 402447**

3 nalTte	Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits
Mercury	0.00101	0.000944		mg/L		94	80 - 120

Lab Sample ID: 400-9^^v71-B-9-F MS — **Client Sample ID: Mat5ir Spike**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 4027^7 — **P5ep Batyh: 402447**

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. Limits
Mercury	0.000070	U	0.00201	0.00188		mg/L		93	80 - 120

Lab Sample ID: 400-9^^v71-B-9-, MSD — **Client Sample ID: Mat5ir Spike Dupliyate**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 4027^7 — **P5ep Batyh: 402447**

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MSD Result	MSD Qualifie5	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00183		mg/L		91	80 - 120	3	20

Method: SM 2^40C - Solids8Wbtal Dissolced (WDS)

Lab Sample ID: MB 400-4099v4/9 — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 4099v4

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/15/18 15:50	1

Lab Sample ID: LCS 400-4099v4/2 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 4099v4

3 nalTte	Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits
Total Dissolved Solids	293	254		mg/L		87	78 - 122

Lab Sample ID: 400-9^4101-^ DU — **Client Sample ID: Mx -90^**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 4099v4

3 nalTte	Sample Result	Sample Qualifie5	DU Result	DU Qualifie5	Unit	D	RPD	RPD Limit
Total Dissolved Solids	560		556		mg/L		0	5

Lab Sample ID: MB 400-40947v/9 — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40947v

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			06/18/18 12:59	1

Lab Sample ID: LCS 400-40947v/2 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40947v

3 nalTte	Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits
Total Dissolved Solids	293	260		mg/L		89	78 - 122

Lab Sample ID: 400-9^4101-v DU — **Client Sample ID: Mx -90v**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40947v

3 nalTte	Sample Result	Sample Qualifie5	DU Result	DU Qualifie5	Unit	D	RPD	RPD Limit
Total Dissolved Solids	96		96.0		mg/L		0	5

Lab Sample ID: 400-9^4101-7 DU — **Client Sample ID: Mx -901**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40947v

3 nalTte	Sample Result	Sample Qualifie5	DU Result	DU Qualifie5	Unit	D	RPD	RPD Limit
Total Dissolved Solids	26		26.0		mg/L		0	5

QC Sample Results

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

TestAmerica Job ID: 400-154909-1
SDG: Landfill 1

Method: SM 4^00 Cl- E - Chlo5ide8Wbtal

Lab Sample ID: MB 400-40v2^2/6
Mat5ir : x ate5
3 nalTsis Batyh: 40v2^2

Client Sample ID: Method Blank
P5ep WTpe: Wbtal/N3

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
Chloride	0.60	U	2.0	0.60	mg/L			07/02/18 13:07	1

Lab Sample ID: LCS 400-40v2^2/7
Mat5ir : x ate5
3 nalTsis Batyh: 40v2^2

Client Sample ID: Lab Cont5ol Sample
P5ep WTpe: Wbtal/N3

3 nalTte	Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits
Chloride	30.0	32.9		mg/L		110	90 - 110

Lab Sample ID: MRL 400-40v2^2/v
Mat5ir : x ate5
3 nalTsis Batyh: 40v2^2

Client Sample ID: Lab Cont5ol Sample
P5ep WTpe: Wbtal/N3

3 nalTte	Spike 3 dded	MRL Result	MRL Qualifie5	Unit	D	%Rey	%Rey. Limits
Chloride	2.00	1.87	I	mg/L		94	50 - 150

Lab Sample ID: 400-9^4101-92 MS
Mat5ir : x ate5
3 nalTsis Batyh: 40v2^2

Client Sample ID: Mx -209
P5ep WTpe: Wbtal/N3

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. Limits
Chloride	86		20.0	90.8	J3	mg/L		24	73 - 120

Lab Sample ID: 400-9^4101-92 MSD
Mat5ir : x ate5
3 nalTsis Batyh: 40v2^2

Client Sample ID: Mx -209
P5ep WTpe: Wbtal/N3

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MSD Result	MSD Qualifie5	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Chloride	86		20.0	91.3	J3	mg/L		27	73 - 120	1	8

Method: SM 4^00 F C - Fluo5ide

Lab Sample ID: MB 400-40v^97/v
Mat5ir : x ate5
3 nalTsis Batyh: 40v^97

Client Sample ID: Method Blank
P5ep WTpe: Wbtal/N3

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 11:36	1

Lab Sample ID: LCS 400-40v^97/4
Mat5ir : x ate5
3 nalTsis Batyh: 40v^97

Client Sample ID: Lab Cont5ol Sample
P5ep WTpe: Wbtal/N3

3 nalTte	Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits
Fluoride	4.00	3.87		mg/L		97	90 - 110

Method: SM 4^00 F C - Fluo5ide (Continued)

Lab Sample ID: 400-9^4000-B-^ MS — **Client Sample ID: Mat5ir Spike**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^97

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. Limits		
Fluoride	0.10		1.00	0.700	J3	mg/L		60	75 - 125		

Lab Sample ID: 400-9^4000-B-^ MSD — **Client Sample ID: Mat5ir Spike Dupliyate**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^97

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MSD Result	MSD Qualifie5	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Fluoride	0.10		1.00	0.700	J3	mg/L		60	75 - 125	0	4

Lab Sample ID: 400-9^4101-9 DU — **Client Sample ID: Mx -909**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^97

3 nalTte	Sample Result	Sample Qualifie5		DU Result	DU Qualifie5	Unit	D			RPD	RPD Limit
Fluoride	0.032	U		0.032	U	mg/L				NC	4

Lab Sample ID: MB 400-40v^v7/v — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^v7

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
Fluoride	0.032	U	0.10	0.032	mg/L			07/05/18 13:33	1

Lab Sample ID: LCS 400-40v^v7/4 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^v7

3 nalTte			Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits		
Fluoride			4.00	3.87		mg/L		97	90 - 110		

Lab Sample ID: 400-9^4101-99 MS — **Client Sample ID: DUP-04**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^v7

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. Limits		
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125		

Lab Sample ID: 400-9^4101-99 MSD — **Client Sample ID: DUP-04**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^v7

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MSD Result	MSD Qualifie5	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Fluoride	0.032	U	1.00	1.04		mg/L		104	75 - 125	0	4

Lab Sample ID: 400-9^^v^6-B-7 DU — **Client Sample ID: Dupliyate**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: 40v^v7

3 nalTte	Sample Result	Sample Qualifie5		DU Result	DU Qualifie5	Unit	D			RPD	RPD Limit
Fluoride	0.090	I		0.0900	I	mg/L				0	4

Method: SM 4^00 SG4 E - Sulfate8Wbtal

Lab Sample ID: MB 400-40vv6^/6 — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40vv6^

3 nalTte	MB Result	MB Qualifie5	PQL	MDL	Unit	D	P5epa5ed	3 nalTzed	Dil Fay
Sulfate	1.4	U	5.0	1.4	mg/L			07/03/18 08:55	1

Lab Sample ID: LCS 400-40vv6^/7 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40vv6^

3 nalTte			Spike 3 dded	LCS Result	LCS Qualifie5	Unit	D	%Rey	%Rey. Limits		
Sulfate			15.0	15.0		mg/L		100	90 - 110		

Lab Sample ID: MRL 400-40vv6^/v — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40vv6^

3 nalTte			Spike 3 dded	MRL Result	MRL Qualifie5	Unit	D	%Rey	%Rey. Limits		
Sulfate			5.00	5.34		mg/L		107	50 - 150		

Lab Sample ID: 400-9^4101-9 MS — **Client Sample ID: Mx -909**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40vv6^

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MS Result	MS Qualifie5	Unit	D	%Rey	%Rey. Limits		
Sulfate	1.5	I	10.0	10.9		mg/L		94	77 - 128		

Lab Sample ID: 400-9^4101-9 MSD — **Client Sample ID: Mx -909**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: 40vv6^

3 nalTte	Sample Result	Sample Qualifie5	Spike 3 dded	MSD Result	MSD Qualifie5	Unit	D	%Rey	%Rey. Limits	RPD	RPD Limit
Sulfate	1.5	I	10.0	10.5		mg/L		90	77 - 128	3	5

Method: 1v9^ - Radium-226 (, FPC)

Lab Sample ID: MB 960-v70710/2v-3 — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wbtal/N3**
3 nalTsis Batyh: v74Ov7 — **P5ep Batyh: v70710**

3 nalTte	MB Result	MB Qualifie5	Count Unye5t. (2σ+/-)	Wbtal Unye5t. (2σ+/-)	RL	MDC	Unit	P5epa5ed	3 nalTzed	Dil Fay
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*	*03/13/16 1891 3*	*0: /11/16 0590 0*	*1*

Method: 1v9^ - Radium-226 (, FPC) (Continued)

Lab Sample ID: LCS 960-v70710/9-3 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: v74Ov4 — **P5ep Batyh: v70710**

3 nalTte			Spike 3 dded	LCS Result	LCS Qual	Wotal Unye5t. (2σ+/-)	RL	MDC	Unit	%Rey	%Rey. 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	*107*		*40 - 110*

Lab Sample ID: LCSD 960-v70710/2-3 — **Client Sample ID: Lab Cont5ol Sample Dup**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: v74Ov4 — **P5ep Batyh: v70710**

3 nalTte			Spike 3 dded	LCSD Result	LCSD Qual	Wotal Unye5t. (2σ+/-)	RL	MDC	Unit	%Rey	%Rey. 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	*103*		*40 - 110*

Method: 1v20 - Radium-22O(, FPC)

Lab Sample ID: MB 960-v7071v/2v-3 — **Client Sample ID: Method Blank**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: v74^69 — **P5ep Batyh: v7071v**

3 nalTte	MB Result	MB Qualifie5	Count Unye5t. (2σ+/-)	Wotal Unye5t. (2σ+/-)	RL	MDC	Unit	P5epa5ed	3 nalTzed	Dil Fay
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*	*03/13/16 1791 0*	*0: /10/16 1494 4*	*1*
. Carrier	*662 3*		*40 - 110*	*03/13/16 1791 0*	*0: /10/16 1494 4*	*1*

Lab Sample ID: LCS 960-v7071v/9-3 — **Client Sample ID: Lab Cont5ol Sample**
Mat5ir : x ate5 — **P5ep WTpe: Wotal/N3**
3 nalTsis Batyh: v74666 — **P5ep Batyh: v7071v**

3 nalTte			Spike 3 dded	LCS Result	LCS Qual	Wotal Unye5t. (2σ+/-)	RL	MDC	Unit	%Rey	%Rey. 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	*107*		*40 - 110*
. Carrier	*Y72 5*		*40 - 110*

Method: 1v20 - Radium-22O(, FPC) (Continued)

Lab Sample ID: LCSD 960-v7071v/2-3
Mat5ir : x ate5
3 nalTsis Batyh: v74666

Client Sample ID: Lab Cont5ol Sample Dup
P5ep WTpe: Wotal/N3
P5ep Batyh: v7071v

3 nalTte			Spike 3 dded	LCSD Result	LCSD Qual	Wotal Unye5t. (2σ+/-)	RL	MDC	Unit	%Rey	%Rey. 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	*103*		*40 - 110*
. Carrier	*Y123*		*40 - 110*

Method: Ra226_Ra22O- Combined Radium-226 and Radium-22O

Lab Sample ID: 9O0-7O700-3 -6 DU
Mat5ir : x ate5
3 nalTsis Batyh: v7^2^O

Client Sample ID: Dupliyate
P5ep WTpe: Wotal/N3

3 nalTte	Sample Result	Sample Qual		DU Result	DU Qual	Wotal Unye5t. (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

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:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226, 9320_Ra228, Ra226Ra228_GFPC	SM4500_Cl_E - Chloride, SM4500_SO4_E - Sulfate, 2540C - Total Dissolved Solids, 4500_F_C - Fluoride	6020 - 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 Sorles	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
Pro2ectj/ ite: CCS Plant Crist

TestAmerica Job ID: 400-154707-1
/ DG: RanBfill 1

Laboratory: TestAmerica Pensacola

All accreBitationsjcertifications kelB by tkis laboratory are listeBg d ot all accreBitationsjcertifications are applicable to tkis reportg

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	/ tate Prohram	4	40150	0. -N0-17
Ad A6	I/ 3 jI9 C 1C0E5		RE4O1	0E-EE-E0
AriLona	/ tate Prohram	7	Az0O10	01-1E-17
ArZansas D9Q	/ tate Prohram	.	88-0. 87	07-01-18
California	/ tate Prohram	7	E510	0. -N0-17
FloriBa	d 9RAP	4	981010	0. -N0-17
Georhia	/ tate Prohram	4	981010 (FR)	0. -N0-17
Illinois	d 9RAP	5	E00041	10-07-18
Iowa	/ tate Prohram	O	N. O	08-01-18
Kansas	d 9RAP	O	9-10E5N	10-N1-18
KentucZy (U/ T)	/ tate Prohram	4	5N	0. -N0-17
KentucZy (WW)	/ tate Prohram	4	780N0	1E-N1-18
Rouisiana	d 9RAP	.	N07O.	0. -N0-17
Rouisiana (DW)	d 9RAP	.	RA1C0005	1E-N1-18
MarylanB	/ tate Prohram	N	ENN	07-N0-18
Massackusetts	/ tate Prohram	1	M-FR074	0. -N0-17
Mickihan	/ tate Prohram	5	771E	0. -N0-17
d ew Jersey	d 9RAP	E	FR00.	0. -N0-17
d ortk Carolina (WWj/ W)	/ tate Prohram	4	N14	1E-N1-18
3 Zlakoma	/ tate Prohram	.	7810	08-N1-18
Pennsylvania	d 9RAP	N	. 8-004. O	01-N1-17
SkoBe IslanB	/ tate Prohram	1	RA3 00N0O	1E-N0-18
/ outk Carolina	/ tate Prohram	4	7. 0E.	0. -N0-18 *
Tennessee	/ tate Prohram	4	Td 0E70O	0. -N0-17
Texas	d 9RAP	.	T104C04E8. -18-14	07-N0-18
U/ Fisk & WilBlife	FeBeral		R9058448-0	0O-N1-18
U/ DA	FeBeral		PNN0-1. -001CE	05-E4-17
Virhinia	d 9RAP	N	4. 01. .	0. -14-17
Waskinhton	/ tate Prohram	10	C715	05-15-17
West Virhinia D9P	/ tate Prohram	N	1N.	0. -N0-17

Laboratory: TestAmerica St. Louis

All accreBitationsjcertifications kelB by tkis laboratory are listeBg d ot all accreBitationsjcertifications are applicable to tkis reportg

Authority	Program	EPA Region	Identification Number	Expiration Date
AlasZa	/ tate Prohram	10	M3 00054	0. -N0-17
Ad A6	DoD 9RAP		REN05	04-0. -17
AriLona	/ tate Prohram	7	Az081N	1E-08-18
California	/ tate Prohram	7	E88.	0. -N0-17
Connecticut	/ tate Prohram	1	PH-0E41	0N-N1-17
FloriBa	d 9RAP	4	98O. 87	0. -N0-17
Illinois	d 9RAP	5	E000EN	11-N0-18
Iowa	/ tate Prohram	O	NON	1E-01-18
Kansas	d 9RAP	O	9-10EN.	10-N1-18
KentucZy (DW)	/ tate Prohram	4	701E5	1E-N1-18
Rouisiana	d 9RAP	.	04080	0. -N0-17
Rouisiana (DW)	d 9RAP	.	RA18001O	1E-N1-18
MarylanB	/ tate Prohram	N	N10	07-N0-18
Mickihan	/ tate Prohram	5	7005	0. -N0-18 *
Missouri	/ tate Prohram	O	C80	0. -N0-18 *

* AccreBitationjCertification renewal penBinh - accreBitationjcertification consiBereB valiBg

Laboratory: TestAmerica St. Louis (Continued)

All accreBitationsjcertifications kelB by tkis laboratory are listeBg d ot all accreBitationsjcertifications are applicable to tkis reportg

Authority	Program	EPA Region	Identification Number	Expiration Date
d evaBa	/ tate Prohram	7	M3 00054E018-1	0O-N1-18 *
d ew Jersey	d 9 RAP	E	M3 00E	0. -N0-17
d ew YorZ	d 9 RAP	E	11. 1.	0N-N1-17
d ortk DaZota	/ tate Prohram	8	SE0O	0. -N0-18 *
d SC	d SC		E4-E481O-01	1E-N1-EE
3 Zlakoma	/ tate Prohram	.	777O	08-N1-18 *
Pennsylvania	d 9 RAP	N	. 8-00540	0E-E8-17
/ outk Carolina	/ tate Prohram	4	8500E001	0. -N0-18 *
Texas	d 9 RAP	.	T104C0417N-1O-11	0O-N1-18 *
U/ Fisk & WilBlife	FeBeral		058448	0O-N1-18
U/ DA	FeBeral		PNN0-1O-00E8	0E-0E-E0
Utak	d 9 RAP	8	M3 00054E01. -8	0O-N1-18 *
Virhinia	d 9 RAP	N	4. 0EN0	0. -14-17
Waskinhton	/ tate Prohram	10	C57E	08-N0-18
West Virhinia D9P	/ tate Prohram	N	N81	08-N1-18 *

* AccreBitationjCertification renewal penBinh - accreBitationjcertification consiBereB valiBg

Geosyntec consultants

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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 <

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
cheyenne.whitmire@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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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: 400-150790-1
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		0.002L	0.00049	mg/v	L		5020	Total Reco6erable
Calcium	0.85		0.2L	0.13	mg/v	L		5020	Total Reco6erable
Cobalt	0.000L8	I	0.002L	0.00040	mg/v	L		5020	Total Reco6erable
Total Dissol6ed Solids	32		L.0	3.4	mg/v	1		SN 2L40C	Total/h A
CMoride	L.L		2.0	1.4	mg/v	1		SN 4L00 Cl- E	Total/h A
Field pH	4.93				SU	1		Field Sampling	Total/h A

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

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.002L	0.00049	mg/v	L		5020	Total Reco6erable
Calcium	0.42		0.2L	0.13	mg/v	L		5020	Total Reco6erable
Cobalt	0.0004L	I	0.002L	0.00040	mg/v	L		5020	Total Reco6erable
vitMum	0.001L	I	0.00L0	0.0011	mg/v	L		5020	Total Reco6erable
Total Dissol6ed Solids	12		L.0	3.4	mg/v	1		SN 2L40C	Total/h A
CMoride	L.1		2.0	1.4	mg/v	1		SN 4L00 Cl- E	Total/h A
Field pH	4.98				SU	1		Field Sampling	Total/h A

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

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.002L	0.00049	mg/v	L		5020	Total Reco6erable
Calcium	1.4		0.2L	0.13	mg/v	L		5020	Total Reco6erable
vitMum	0.0013	I	0.00L0	0.0011	mg/v	L		5020	Total Reco6erable
Total Dissol6ed Solids	5.0		L.0	3.4	mg/v	1		SN 2L40C	Total/h A
CMoride	L.9		2.0	1.4	mg/v	1		SN 4L00 Cl- E	Total/h A
Sulfate	2.8	I	L.0	1.4	mg/v	1		SN 4L00 SO4 E	Total/h A
Field pH	4.81				SU	1		Field Sampling	Total/h A

Client Sample ID: MW-305 — Lab Sample ID: 400-150790-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.012		0.002L	0.00049	mg/v	L		5020	Total Reco6erable
Calcium	0.L4		0.2L	0.13	mg/v	L		5020	Total Reco6erable
Total Dissol6ed Solids	44		L.0	3.4	mg/v	1		SN 2L40C	Total/h A
CMoride	L.L		2.0	1.4	mg/v	1		SN 4L00 Cl- E	Total/h A
Field pH	4.99				SU	1		Field Sampling	Total/h A

Client Sample ID: MW-307 — Lab Sample ID: 400-150790-6

TMs Detection Summary does not include radiocMemical 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-307 (Continued) — Lab Sample ID: 400-150790-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.015		0.002L	0.00049	mg/v	L		5020	Total Reco6erable
Calcium	0.55		0.2L	0.13	mg/v	L		5020	Total Reco6erable
Cobalt	0.00043	I	0.002L	0.00040	mg/v	L		5020	Total Reco6erable
vitMum	0.0012	I	0.00L0	0.0011	mg/v	L		5020	Total Reco6erable
Total Dissol6ed Solids	44		L.0	3.4	mg/v	1		SN 2L40C	Total/h A
CMoride	3.7		2.0	1.4	mg/v	1		SN 4L00 Cl- E	Total/h A
Field pH	L.L4				SU	1		Field Sampling	Total/h A

Client Sample ID: DUP-01 — Lab Sample ID: 400-150790-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.002L	0.00049	mg/v	L		5020	Total Reco6erable
Calcium	0.38		0.2L	0.13	mg/v	L		5020	Total Reco6erable
Cobalt	0.00044	I	0.002L	0.00040	mg/v	L		5020	Total Reco6erable
Total Dissol6ed Solids	10		L.0	3.4	mg/v	1		SN 2L40C	Total/h A
CMoride	L.3		2.0	1.4	mg/v	1		SN 4L00 Cl- E	Total/h A

TMs Detection Summary does not include radiocMemical 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
5060	2 etals MCP/2 S(	SW845	TA) PLE
7470A	2 ercury MCNAA(	SW845	TA) PLE
S2 6V40C	Solids, Total Dissolved MTDS(	S2	TA) PLE
S2 4V00 Cl- L	Chloride, Total	S2	TA) PLE
S2 4V00 F C	Fluoride	S2	TA) PLE
S2 4V00 SO4 L	Sulfate, Total	S2	TA) PLE
Field Sampling	Field Sampling	LPA	TA) PLE
=00VA	Preparation, Total Recoverable or Dissolved 2 etals	SW845	TA) PLE
7470A	Preparation, 2 ercury	SW845	TA) PLE

Protocol References:

LPA U" S Lnvironmental Protection Agency

S2 UxStandard 2 ethods For The L. amination Of Water And Wastewaterx

SW845 UxTest 2 ethods For Lvaluating Solid Waste, Physical/Chemical 2 ethodsx, Third Ldition, Eovember 1985 And Its " pdates3

Laboratory References:

TA) PLE UTestAmerica Pensacola, ==VV 2 c) emore Drive, Pensacola, F) =6V14, TL) M3V0(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	10/15/13 12:00	10/17/13 14:18
400-150790-6	MW-107	Water	10/15/13 11:68	10/17/13 14:18
400-150790-2	MW-103	Water	10/15/13 09:40	10/17/13 14:18
400-150790-4	MW-205	Water	10/17/13 03:80	10/17/13 14:18
400-150790-8	MW-207	Water	10/17/13 11:20	10/17/13 14:18
400-150790-5	DUP-01	Water	10/15/13 10:68	10/17/13 14:18

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: 103153 1/ 12:00
Date Recei8ed: 103173 1/ 14:16

Lab Sample ID: 400-150790-1

Matrix: Water

Metvod: 50h0 - Metals (ICP3MS) - Total Reco8erable

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./ 5**		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	**0.0006/**	**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

Metvod: 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 Cvemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissol8ed Solids	**2h**		5.0	3.4	mg/L			10/22/18 17:15	1
Cvloride	**6.6**		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

Metvod: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.92**				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: 103153I/ 11:h6
Date Recei8ed: 103173I/ 14:16

Lab Sample ID: 400-150790-h

Matrix: Water

Metvod: 50h0 - Metals (ICP3MS) - Total Reco8erable

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	**0.4h**		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	**0.00046**	**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
Litvium	**0.0016**	**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

Metvod: 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 Cvemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissol8ed Solids	**1h**		5.0	3.4	mg/L			10/22/18 17:15	1
Cvloride	**6.1**		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

Metvod: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4.9/**				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-10/

Date Collected: 103153 1/ 09:40
Date Recei8ed: 103173 1/ 14:16

Lab Sample ID: 400-150790-2

Matrix: Water

Metvod: 50h0 - Metals (ICP3MS) - Total Reco8erable

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
Litvium	**0.0012**	**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

Metvod: 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 Cvemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissol8ed Solids	**5.0**		5.0	3.4	mg/L			10/22/18 17:15	1
Cvloride	**6.9**		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	**h./**	**I**	5.0	1.4	mg/L			10/24/18 13:40	1

Metvod: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	**4./ 1**				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-205

Date Collected: 103173 1/ 0/ :60
Date Recei8ed: 103173 1/ 14:16

Lab Sample ID: 400-150790-4

Matrix: Water

Metvod: 50h0 - Metals (ICP3MS) - Total Reco8erable

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	**0.01h**		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	**0.64**		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

Metvod: 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 Cvemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissol8ed Solids	**44**		5.0	3.4	mg/L			10/24/18 12:23	1
Cvloride	**6.6**		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

Metvod: 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-207

Date Collected: 10/17/18 11:20
Date Received: 10/17/18 14:16

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		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	**0.015**		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	**0.55**		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	**0.00042**	**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	**0.0016**	**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	**2.7**		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	**6.64**				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: 103153I/ 10:h6
Date Recei8ed: 103173I/ 14:16

Lab Sample ID: 400-150790-5

Matrix: Water

Metvod: 50h0 - Metals (ICP3MS) - Total Reco8erable

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	**0.2/**		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

Metvod: 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 Cvemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissol8ed Solids	**10**		5.0	3.4	mg/L			10/22/18 17:15	1
Cvloride	**6.2**		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: 400-150790-1
SDG: Background

Client Sample ID: MW-100

Date Collected: 1031531/ 12:00
Date 8ecei6ed: 1031731/ 14:1R

Lab Sample ID: 400-150790-1

Matrix: Water

Brep vTpe	ybatch vTpe	ybatch Method	8sn	Dilstion Nactor	ybatch zsmber	Brepared or PnalTued	PnalTAt	Lab
Total Reco2erable	Prep	3008A			415465	10/EE/16 15:89	DRL	TANPLv
Total Reco2erable	Analysis	50E0		8	415741	10/E3/16 17:83	DRL	TANPLv
Total/vA	Prep	7470A			417370	10/E9/16 1E:11	JAP	TANPLv
Total/vA	Analysis	7470A		1	417575	10/30/16 15:09	JAP	TANPLv
Total/vA	Analysis	SM E840C		1	415491	10/EE/16 17:18	CNB	TANPLv
Total/vA	Analysis	SM 4800 Cl- L		1	415786	10/E4/16 11:10	RRC	TANPLv
Total/vA	Analysis	SM 4800 F C		1	415990	10/E8/16 18:19	BAB	TANPLv
Total/vA	Analysis	SM 4800 SO4 L		1	41579E	10/E4/16 13:E9	RRC	TANPLv
Total/vA	Analysis	Field Sampling		1	416909	10/15/16 13:00	AW	TANPLv

Client Sample ID: MW-107

Date Collected: 1031531/ 11:FR
Date 8ecei6ed: 1031731/ 14:1R

Lab Sample ID: 400-150790-F

Matrix: Water

Brep vTpe	ybatch vTpe	ybatch Method	8sn	Dilstion Nactor	ybatch zsmber	Brepared or PnalTued	PnalTAt	Lab
Total Reco2erable	Prep	3008A			415465	10/EE/16 15:89	DRL	TANPLv
Total Reco2erable	Analysis	50E0		8	415741	10/E3/16 16:15	DRL	TANPLv
Total/vA	Prep	7470A			417370	10/E9/16 1E:11	JAP	TANPLv
Total/vA	Analysis	7470A		1	417575	10/30/16 15:11	JAP	TANPLv
Total/vA	Analysis	SM E840C		1	415491	10/EE/16 17:18	CNB	TANPLv
Total/vA	Analysis	SM 4800 Cl- L		1	415786	10/E4/16 11:10	RRC	TANPLv
Total/vA	Analysis	SM 4800 F C		1	415990	10/E8/16 18:E1	BAB	TANPLv
Total/vA	Analysis	SM 4800 SO4 L		1	41579E	10/E4/16 13:40	RRC	TANPLv
Total/vA	Analysis	Field Sampling		1	416909	10/15/16 11:E8	AW	TANPLv

Client Sample ID: MW-10/

Date Collected: 1031531/ 09:40
Date 8ecei6ed: 1031731/ 14:1R

Lab Sample ID: 400-150790-2

Matrix: Water

Brep vTpe	ybatch vTpe	ybatch Method	8sn	Dilstion Nactor	ybatch zsmber	Brepared or PnalTued	PnalTAt	Lab
Total Reco2erable	Prep	3008A			415465	10/EE/16 15:89	DRL	TANPLv
Total Reco2erable	Analysis	50E0		8	415741	10/E3/16 16:E0	DRL	TANPLv
Total/vA	Prep	7470A			417370	10/E9/16 1E:11	JAP	TANPLv
Total/vA	Analysis	7470A		1	417575	10/30/16 15:13	JAP	TANPLv
Total/vA	Analysis	SM E840C		1	415491	10/EE/16 17:18	CNB	TANPLv
Total/vA	Analysis	SM 4800 Cl- L		1	415786	10/E4/16 11:10	RRC	TANPLv
Total/vA	Analysis	SM 4800 F C		1	415990	10/E8/16 18:E4	BAB	TANPLv
Total/vA	Analysis	SM 4800 SO4 L		1	41579E	10/E4/16 13:40	RRC	TANPLv
Total/vA	Analysis	Field Sampling		1	416909	10/15/16 09:40	AW	TANPLv

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Lab Chronicle

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

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

Client Sample ID: MW-205

Lab Sample ID: 400-150790-4

Date Collected: 1031731/ 0/ :R0
Matrix: Water
Date 8 ecei6ed: 1031731/ 14:1R

Brep vTpe	y atch vTpe	y atch Method	8 sn	Dilstion Nactor	y atch z smber	Brepared or PnalTued	PnalTAt	Lab
Total Reco2erable	Prep	3008A			415465	10/EE/16 15:89	DRL	TAN PL v
Total Reco2erable	Analysis	50E0		8	415741	10/E3/16 16:E4	DRL	TAN PL v
Total/v A	Prep	7470A			417370	10/E9/16 1E:11	JAP	TAN PL v
Total/v A	Analysis	7470A		1	417575	10/30/16 15:14	JAP	TAN PL v
Total/v A	Analysis	SM E840C		1	415755	10/E4/16 1E:E3	CNB	TAN PL v
Total/v A	Analysis	SM 4800 Cl- L		1	415786	10/E4/16 11:10	RRC	TAN PL v
Total/v A	Analysis	SM 4800 F C		1	417309	10/E6/16 11:E3	BAB	TAN PL v
Total/v A	Analysis	SM 4800 SO4 L		1	41579E	10/E4/16 13:40	RRC	TAN PL v
Total/v A	Analysis	Field Sampling		1	416909	10/17/16 06:80	AW	TAN PL v

Client Sample ID: MW-207

Lab Sample ID: 400-150790-R

Date Collected: 1031731/ 11:20
Matrix: Water
Date 8 ecei6ed: 1031731/ 14:1R

Brep vTpe	y atch vTpe	y atch Method	8 sn	Dilstion Nactor	y atch z smber	Brepared or PnalTued	PnalTAt	Lab
Total Reco2erable	Prep	3008A			415465	10/EE/16 15:89	DRL	TAN PL v
Total Reco2erable	Analysis	50E0		8	415741	10/E3/16 16:30	DRL	TAN PL v
Total/v A	Prep	7470A			417370	10/E9/16 1E:11	JAP	TAN PL v
Total/v A	Analysis	7470A		1	417575	10/30/16 15:15	JAP	TAN PL v
Total/v A	Analysis	SM E840C		1	415755	10/E4/16 1E:E3	CNB	TAN PL v
Total/v A	Analysis	SM 4800 Cl- L		1	415786	10/E4/16 11:17	RRC	TAN PL v
Total/v A	Analysis	SM 4800 F C		1	417309	10/E6/16 11:E5	BAB	TAN PL v
Total/v A	Analysis	SM 4800 SO4 L		1	41579E	10/E4/16 13:40	RRC	TAN PL v
Total/v A	Analysis	Field Sampling		1	416909	10/17/16 11:30	AW	TAN PL v

Client Sample ID: DUB-01

Lab Sample ID: 400-150790-5

Date Collected: 1031531/ 10:FR
Matrix: Water
Date 8 ecei6ed: 1031731/ 14:1R

Brep vTpe	y atch vTpe	y atch Method	8 sn	Dilstion Nactor	y atch z smber	Brepared or PnalTued	PnalTAt	Lab
Total Reco2erable	Prep	3008A			415465	10/EE/16 15:89	DRL	TAN PL v
Total Reco2erable	Analysis	50E0		8	415741	10/E3/16 16:38	DRL	TAN PL v
Total/v A	Prep	7470A			417370	10/E9/16 1E:11	JAP	TAN PL v
Total/v A	Analysis	7470A		1	417575	10/30/16 15:16	JAP	TAN PL v
Total/v A	Analysis	SM E840C		1	415491	10/EE/16 17:18	CNB	TAN PL v
Total/v A	Analysis	SM 4800 Cl- L		1	415786	10/E4/16 11:10	RRC	TAN PL v
Total/v A	Analysis	SM 4800 F C		1	415990	10/E8/16 18:E6	BAB	TAN PL v
Total/v A	Analysis	SM 4800 SO4 L		1	41579E	10/E4/16 13:40	RRC	TAN PL v

LaboratorT 8 eferenceA:
TAN PL v = TestAmerica Pensacola, 3388 McNemore Dri2e, Pensacola, FN 3E814, TL N (680)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: 390310

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total Reco3erable	Water	M00NA	
400-150790-8	2 W-107	Total Reco3erable	Water	M00NA	
400-150790-M	2 W-106	Total Reco3erable	Water	M00NA	
400-150790-4	2 W-M05	Total Reco3erable	Water	M00NA	
400-150790-N	2 W-M07	Total Reco3erable	Water	M00NA	
400-150790-5	DUP-01	Total Reco3erable	Water	M00NA	
2 B 400-415465/1-A hN	2 etLod Blank	Total Reco3erable	Water	M00NA	
xCS 400-415465/8-A	xab Control Sample	Total Reco3erable	Water	M00NA	
400-15017N-B-80-B 2 S hN	2 atriv Spike	Total Reco3erable	Water	M00NA	
400-15017N-B-80-C 2 SD hN	2 atriv Spike Duplicate	Total Reco3erable	Water	M00NA	

Analysis Batch: 390x39

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total Reco3erable	Water	5080	415465
400-150790-8	2 W-107	Total Reco3erable	Water	5080	415465
400-150790-M	2 W-106	Total Reco3erable	Water	5080	415465
400-150790-4	2 W-M05	Total Reco3erable	Water	5080	415465
400-150790-N	2 W-M07	Total Reco3erable	Water	5080	415465
400-150790-5	DUP-01	Total Reco3erable	Water	5080	415465
2 B 400-415465/1-A hN	2 etLod Blank	Total Reco3erable	Water	5080	415465
xCS 400-415465/8-A	xab Control Sample	Total Reco3erable	Water	5080	415465
400-15017N-B-80-B 2 S hN	2 atriv Spike	Total Reco3erable	Water	5080	415465
400-15017N-B-80-C 2 SD hN	2 atriv Spike Duplicate	Total Reco3erable	Water	5080	415465

Prep Batch: 39xdx5

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	7470A	
400-150790-8	2 W-107	Total/^ A	Water	7470A	
400-150790-M	2 W-106	Total/^ A	Water	7470A	
400-150790-4	2 W-M05	Total/^ A	Water	7470A	
400-150790-N	2 W-M07	Total/^ A	Water	7470A	
400-150790-5	DUP-01	Total/^ A	Water	7470A	
2 B 400-417M70/14-A	2 etLod Blank	Total/^ A	Water	7470A	
xCS 400-417M70/1N-A	xab Control Sample	Total/^ A	Water	7470A	
400-150N68-B-11-B 2 S	2 atriv Spike	Total/^ A	Water	7470A	
400-150N68-B-11-C 2 SD	2 atriv Spike Duplicate	Total/^ A	Water	7470A	

Analysis Batch: 39x0x0

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	7470A	417M70
400-150790-8	2 W-107	Total/^ A	Water	7470A	417M70
400-150790-M	2 W-106	Total/^ A	Water	7470A	417M70
400-150790-4	2 W-M05	Total/^ A	Water	7470A	417M70
400-150790-N	2 W-M07	Total/^ A	Water	7470A	417M70
400-150790-5	DUP-01	Total/^ A	Water	7470A	417M70
2 B 400-417M70/14-A	2 etLod Blank	Total/^ A	Water	7470A	417M70
xCS 400-417M70/1N-A	xab Control Sample	Total/^ A	Water	7470A	417M70
400-150N68-B-11-B 2 S	2 atriv Spike	Total/^ A	Water	7470A	417M70
400-150N68-B-11-C 2 SD	2 atriv Spike Duplicate	Total/^ A	Water	7470A	417M70

QC Association Summary

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

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

6 eneral Chemistry

Analysis Batch: 390329

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	S2 8N40C	
400-150790-8	2 W-107	Total/^ A	Water	S2 8N40C	
400-150790-M	2 W-106	Total/^ A	Water	S2 8N40C	
400-150790-5	DUP-01	Total/^ A	Water	S2 8N40C	
2 B 400-415491/1	2 etLod Blank	Total/^ A	Water	S2 8N40C	
xCS 400-415491/8	xab Control Sample	Total/^ A	Water	S2 8N40C	
400-150790-MDU	2 W-106	Total/^ A	Water	S2 8N40C	

Analysis Batch: 390xG1

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-8	2 W-107	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-M	2 W-106	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-4	2 W-M05	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-N	2 W-M07	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-5	DUP-01	Total/^ A	Water	S2 4N00 Cl- E	
2 B 400-4157N6/5	2 etLod Blank	Total/^ A	Water	S2 4N00 Cl- E	
xCS 400-4157N6/7	xab Control Sample	Total/^ A	Water	S2 4N00 Cl- E	
2 Rx 400-4157N6/M	xab Control Sample	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-1 2 S	2 W-100	Total/^ A	Water	S2 4N00 Cl- E	
400-150790-1 2 SD	2 W-100	Total/^ A	Water	S2 4N00 Cl- E	

Analysis Batch: 390x00

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-4	2 W-M05	Total/^ A	Water	S2 8N40C	
400-150790-N	2 W-M07	Total/^ A	Water	S2 8N40C	
2 B 400-415755/1	2 etLod Blank	Total/^ A	Water	S2 8N40C	
xCS 400-415755/8	xab Control Sample	Total/^ A	Water	S2 8N40C	
400-1506M8-A-18 DU	Duplicate	Total/^ A	Water	S2 8N40C	

Analysis Batch: 390x28

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-8	2 W-107	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-M	2 W-106	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-4	2 W-M05	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-N	2 W-M07	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-5	DUP-01	Total/^ A	Water	S2 4N00 SO4 E	
2 B 400-415798/5	2 etLod Blank	Total/^ A	Water	S2 4N00 SO4 E	
xCS 400-415798/7	xab Control Sample	Total/^ A	Water	S2 4N00 SO4 E	
2 Rx 400-415798/M	xab Control Sample	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-1 2 S	2 W-100	Total/^ A	Water	S2 4N00 SO4 E	
400-150790-1 2 SD	2 W-100	Total/^ A	Water	S2 4N00 SO4 E	

Analysis Batch: 390225

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	S2 4N00 F C	
400-150790-8	2 W-107	Total/^ A	Water	S2 4N00 F C	
400-150790-M	2 W-106	Total/^ A	Water	S2 4N00 F C	
400-150790-5	DUP-01	Total/^ A	Water	S2 4N00 F C	
2 B 400-415990/M	2 etLod Blank	Total/^ A	Water	S2 4N00 F C	

QC Association Summary

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

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

6 eneral Chemistry (ContinueT)

Analysis Batch: 390225 (ContinueT)

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
xCS 400-415990/4	xab Control Sample	Total/^ A	Water	S2 4N00 F C	
400-1505M0-A-16 2 S	2 atriv Spike	Total/^ A	Water	S2 4N00 F C	
400-1505M0-A-16 2 SD	2 atriv Spike Duplicate	Total/^ A	Water	S2 4N00 F C	
400-1505M0-A-85 DU	Duplicate	Total/^ A	Water	S2 4N00 F C	

Analysis Batch: 39xd52

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-4	2 W-M05	Total/^ A	Water	S2 4N00 F C	
400-150790-N	2 W-M07	Total/^ A	Water	S2 4N00 F C	
2 B 400-417M09/M	2 etLod Blank	Total/^ A	Water	S2 4N00 F C	
xCS 400-417M09/4	xab Control Sample	Total/^ A	Water	S2 4N00 F C	
400-150756-I-1 2 S	2 atriv Spike	Total/^ A	Water	S2 4N00 F C	
400-150756-I-1 2 SD	2 atriv Spike Duplicate	Total/^ A	Water	S2 4N00 F C	
400-150614-A-4 DU	Duplicate	Total/^ A	Water	S2 4N00 F C	

FieIT Service / Mo4ile 7a4

Analysis Batch: 391252

7a4 Sample Ib	Client Sample Ib	Prep I ype	MatriD	MethoT	Prep Batch
400-150790-1	2 W-100	Total/^ A	Water	Field Sampling	
400-150790-8	2 W-107	Total/^ A	Water	Field Sampling	
400-150790-M	2 W-106	Total/^ A	Water	Field Sampling	
400-150790-4	2 W-M05	Total/^ A	Water	Field Sampling	
400-150790-N	2 W-M07	Total/^ A	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 400-436496/3-5 71
MatA^: r ateA
5 nalWsis BatTh: 436c43

Client Sample ID: Method Blank
PAep xWpe: xotal ReToyeAable
PAep BatTh: 436496

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Antimony	0.0010	U	0.002L	0.0010	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Arsenic	0.00045	U	0.0016	0.00045	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Barium	0.00049	U	0.002L	0.00049	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Beryllium	0.00064	U	0.002L	0.00064	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Boron	0.021	U	0.0L0	0.021	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Cadmium	0.00064	U	0.002L	0.00064	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Calcium	0.16	U	0.2L	0.16	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Chromium	0.0011	U	0.002L	0.0011	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Cobalt	0.00040	U	0.002L	0.00040	mg/3		10/22/18 15:L9	10/26/18 15:19	L
3ead	0.000L90	I	0.0016	0.0006L	mg/3		10/22/18 15:L9	10/26/18 15:19	L
3ithium	0.0011	U	0.00L0	0.0011	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Molybdenum	0.0020	U	0.01L	0.0020	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Selenium	0.00071	U	0.0016	0.00071	mg/3		10/22/18 15:L9	10/26/18 15:19	L
Thallium	0.00008L	U	0.000L0	0.00008L	mg/3		10/22/18 15:L9	10/26/18 15:19	L

Lab Sample ID: LCS 400-436496/2-5
MatA^: r ateA
5 nalWsis BatTh: 436c43

Client Sample ID: Lab ContAol Sample
PAep xWpe: xotal ReToyeAable
PAep BatTh: 436496

5 nalWte	Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits
Antimony	0.0L00	0.0491		mg/3		98	80 - 120
Arsenic	0.0L00	0.0L02		mg/3		100	80 - 120
Barium	0.0L00	0.0486		mg/3		97	80 - 120
Beryllium	0.0L00	0.0490		mg/3		98	80 - 120
Boron	0.100	0.09L2		mg/3		9L	80 - 120
Cadmium	0.0L00	0.0L67		mg/3		107	80 - 120
Calcium	L.00	4.95		mg/3		99	80 - 120
Chromium	0.0L00	0.0L07		mg/3		101	80 - 120
Cobalt	0.0L00	0.0L10		mg/3		102	80 - 120
3ead	0.0L00	0.0L25		mg/3		10L	80 - 120
3ithium	0.0L00	0.0L29		mg/3		105	80 - 120
Molybdenum	0.0L00	0.0489		mg/3		98	80 - 120
Selenium	0.0L00	0.0484		mg/3		97	80 - 120
Thallium	0.0100	0.0104		mg/3		104	80 - 120

Lab Sample ID: 400-3603c1-B-20-B MS 71
MatA^: r ateA
5 nalWsis BatTh: 436c43

Client Sample ID: MatA^ Spike
PAep xWpe: xotal ReToyeAable
PAep BatTh: 436496

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits
Antimony	0.0010	U	0.0L00	0.0L17		mg/3		106	7L - 12L
Arsenic	0.00045	U	0.0L00	0.0L19		mg/3		104	7L - 12L
Barium	0.022		0.0L00	0.0720		mg/3		100	7L - 12L
Beryllium	0.00064	U	0.0L00	0.0L10		mg/3		102	7L - 12L
Boron	0.021	U	0.100	0.106		mg/3		106	7L - 12L
Cadmium	0.00064	U	0.0L00	0.0L48		mg/3		110	7L - 12L
Calcium	61		L.00	67.6		mg/3		118	7L - 12L
Chromium	0.0011	U	0.0L00	0.0L74		mg/3		11L	7L - 12L

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

Lab Sample ID: 400-3603c1-B-20-B MS 71 — **Client Sample ID: MatA^ Spike**
MatA^: r ateA — **PAep xWpe: xotal ReToyeAable**
5 nalWsis BatTh: 436c43 — **PAep BatTh: 436496**

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Cobalt	0.0061		0.0L00	0.0L69		mg/3		102	7L - 12L		
3ead	0.0006L	U	0.0L00	0.0L05		mg/3		101	7L - 12L		
3ithium	0.0044	I	0.0L00	0.0L90		mg/3		109	7L - 12L		
Molybdenum	0.0020	U	0.0L00	0.0L04		mg/3		101	7L - 12L		
Selenium	0.00080	I	0.0L00	0.0L10		mg/3		100	7L - 12L		
Thallium	0.00008L	U	0.0100	0.0107		mg/3		107	7L - 12L		

Lab Sample ID: 400-3603c1-B-20-C MSD 71 — **Client Sample ID: MatA^ Spike DupliTate**
MatA^: r ateA — **PAep xWpe: xotal ReToyeAable**
5 nalWsis BatTh: 436c43 — **PAep BatTh: 436496**

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MSD Result	MSD QualiUeA	z nit	D	f ReT	f ReT% Limits	RPD	RPD Limit
Antimony	0.0010	U	0.0L00	0.0L12		mg/3		102	7L - 12L	1	20
Arsenic	0.00045	U	0.0L00	0.0L17		mg/3		106	7L - 12L	0	20
Barium	0.022		0.0L00	0.0721		mg/3		101	7L - 12L	0	20
Beryllium	0.00064	U	0.0L00	0.0L0L		mg/3		101	7L - 12L	1	20
Boron	0.021	U	0.100	0.0981		mg/3		98	7L - 12L	L	20
Cadmium	0.00064	U	0.0L00	0.0L46		mg/3		109	7L - 12L	1	20
Calcium	61		L.00	65.5		mg/3		104	7L - 12L	2	20
Chromium	0.0011	U	0.0L00	0.0L58		mg/3		114	7L - 12L	1	20
Cobalt	0.0061		0.0L00	0.0L44		mg/3		106	7L - 12L	1	20
3ead	0.0006L	U	0.0L00	0.0L06		mg/3		101	7L - 12L	1	20
3ithium	0.0044	I	0.0L00	0.0L72		mg/3		105	7L - 12L	6	20
Molybdenum	0.0020	U	0.0L00	0.0L08		mg/3		102	7L - 12L	1	20
Selenium	0.00080	I	0.0L00	0.0497		mg/3		98	7L - 12L	6	20
Thallium	0.00008L	U	0.0100	0.0107		mg/3		107	7L - 12L	0	20

Method: c4c05 - MeATuAW(C. 5 5)

Lab Sample ID: MB 400-43cVc0/34-5 — **Client Sample ID: Method Blank**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43c6c6 — **PAep BatTh: 43cVc0**

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Mercury	0.000070	U	0.00020	0.000070	mg/3		10/29/18 11:0L	10/60/18 1L:07	1

Lab Sample ID: LCS 400-43cVc0/31-5 — **Client Sample ID: Lab ConAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43c6c6 — **PAep BatTh: 43cVc0**

5 nalWte			Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Mercury			0.00101	0.000979		mg/3		97	80 - 120		

Lab Sample ID: 400-360192-B-33-B MS — **Client Sample ID: MatA^ Spike**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43c6c6 — **PAep BatTh: 43cVc0**

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Mercury	0.000070	U	0.00201	0.00260		mg/3		114	80 - 120		

QC Sample Results

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

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

Lab Sample ID: 400-360192-B-33-C MSD — **Client Sample ID: MatA^ Spike DupliTate**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43c6c6 — **PAep BatTh: 43cVc0**

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MSD Result	MSD QualiUeA	z nit	D	f ReT	f ReT% Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00267		mg/3		118	80 - 120	6	20

Method: SM 2140C - Solids8xotal Dissolyed (xDS)

Lab Sample ID: MB 400-4364, 3/3 — **Client Sample ID: Method Blank**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 4364, 3

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Total Dissolved Solids	6.4	U	L.0	6.4	mg/3			10/22/18 17:1L	1

Lab Sample ID: LCS 400-4364, 3/2 — **Client Sample ID: Lab ContAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 4364, 3

5 nalWte			Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Total Dissolved Solids			296	274		mg/3		94	78 - 122		

Lab Sample ID: 400-360c, 0-V Dz — **Client Sample ID: Mr -309**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 4364, 3

5 nalWte	Sample Result	Sample QualiUeA		Dz Result	Dz QualiUeA	z nit	D			RPD	RPD Limit
Total Dissolved Solids	5.0			5.00		mg/3				0	L

Lab Sample ID: MB 400-436c66/3 — **Client Sample ID: Method Blank**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c66

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Total Dissolved Solids	6.4	U	L.0	6.4	mg/3			10/24/18 12:26	1

Lab Sample ID: LCS 400-436c66/2 — **Client Sample ID: Lab ContAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c66

5 nalWte			Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Total Dissolved Solids			296	280		mg/3		95	78 - 122		

Lab Sample ID: 400-3609V2-5 -32 Dz — **Client Sample ID: DupliTate**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c66

5 nalWte	Sample Result	Sample QualiUeA		Dz Result	Dz QualiUeA	z nit	D			RPD	RPD Limit
Total Dissolved Solids	140			148		mg/3				4	L

QC Sample Results

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

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

Method: SM 4100 Cl- E - ChloAde8xotal

Lab Sample ID: MB 400-436c19/6 — **Client Sample ID: Method Blank**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c19

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Chloride	1.4	U	2.0	1.4	mg/3			10/24/18 11:07	1

Lab Sample ID: LCS 400-436c19/c — **Client Sample ID: Lab ContAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c19

5 nalWte	Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits
Chloride	60.0	62.L		mg/3		108	90 - 110

Lab Sample ID: MRL 400-436c19/V — **Client Sample ID: Lab ContAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c19

5 nalWte	Spike 5 dded	MRL Result	MRL QualiUeA	z nit	D	f ReT	f ReT% Limits
Chloride	2.00	1.87	I	mg/3		94	L0 - 1L0

Lab Sample ID: 400-360c, 0-3 MS — **Client Sample ID: Mr -300**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c19

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits
Chloride	L.L		10.0	15.5		mg/3		111	76 - 120

Lab Sample ID: 400-360c, 0-3 MSD — **Client Sample ID: Mr -300**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436c19

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MSD Result	MSD QualiUeA	z nit	D	f ReT	f ReT% Limits	RPD	RPD Limit
Chloride	L.L		10.0	15.6		mg/3		108	76 - 120	2	8

Method: SM 4100 v C - vluoAde

Lab Sample ID: MB 400-436, , 0/V — **Client Sample ID: Method Blank**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436, , 0

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Fluoride	0.062	U	0.10	0.062	mg/3			10/2L/18 16:L6	1

Lab Sample ID: LCS 400-436, , 0/4 — **Client Sample ID: Lab ContAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436, , 0

5 nalWte	Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits
Fluoride	4.00	4.25		mg/3		107	90 - 110

Method: SM 4100 v C - vluoAde (Continued)

Lab Sample ID: 400-3606V0-5 -39 MS — **Client Sample ID: MatA^ Spike**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436, , 0

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Fluoride	0.8L		1.00	1.96		mg/3		108	7L - 12L		

Lab Sample ID: 400-3606V0-5 -39 MSD — **Client Sample ID: MatA^ Spike DupliTate**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436, , 0

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MSD Result	MSD QualiUeA	z nit	D	f ReT	f ReT% Limits	RPD	RPD Limit
Fluoride	0.8L		1.00	1.96		mg/3		108	7L - 12L	0	4

Lab Sample ID: 400-3606V0-5 -26 Dz — **Client Sample ID: DupliTate**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 436, , 0

5 nalWte	Sample Result	Sample QualiUeA		Dz Result	Dz QualiUeA	z nit	D			RPD	RPD Limit
Fluoride	0.42			0.420		mg/3				0	4

Lab Sample ID: MB 400-43cV0, /V — **Client Sample ID: Method Blank**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43cV0,

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Fluoride	0.062	U	0.10	0.062	mg/3			10/28/18 11:00	1

Lab Sample ID: LCS 400-43cV0, /4 — **Client Sample ID: Lab ContAol Sample**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43cV0,

5 nalWte			Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Fluoride			4.00	4.25		mg/3		107	90 - 110		

Lab Sample ID: 400-360c69-I-3 MS — **Client Sample ID: MatA^ Spike**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43cV0,

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Fluoride	0.L2		1.00	1.56		mg/3		111	7L - 12L		

Lab Sample ID: 400-360c69-I-3 MSD — **Client Sample ID: MatA^ Spike DupliTate**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43cV0,

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MSD Result	MSD QualiUeA	z nit	D	f ReT	f ReT% Limits	RPD	RPD Limit
Fluoride	0.L2		1.00	1.56		mg/3		111	7L - 12L	0	4

Lab Sample ID: 400-360934-5 -4 Dz — **Client Sample ID: DupliTate**
MatA^: r ateA — **PAep xWpe: xotal/N5**
5 nalWsis BatTh: 43cV0,

5 nalWte	Sample Result	Sample QualiUeA		Dz Result	Dz QualiUeA	z nit	D			RPD	RPD Limit
Fluoride	0.062	U		0.062	U	mg/3				NC	4

QC Sample Results

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

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

Method: SM 4100 SO4 E - SulUate8xotal

Lab Sample ID: MB 400-436c, 2/6
MatA^: r ateA
5 nalWsis BatTh: 436c, 2

Client Sample ID: Method Blank
PAep xWpe: xotal/N5

5 nalWte	MB Result	MB QualiUeA	PQL	MDL	z nit	D	PAepaAed	5 nalWFed	Dil vaT
Sulfate	1.4	U	L.0	1.4	mg/3			10/24/18 16:29	1

Lab Sample ID: LCS 400-436c, 2/c
MatA^: r ateA
5 nalWsis BatTh: 436c, 2

Client Sample ID: Lab ContAol Sample
PAep xWpe: xotal/N5

5 nalWte			Spike 5 dded	LCS Result	LCS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Sulfate			1L.0	16.8		mg/3		92	90 - 110		

Lab Sample ID: MRL 400-436c, 2/V
MatA^: r ateA
5 nalWsis BatTh: 436c, 2

Client Sample ID: Lab ContAol Sample
PAep xWpe: xotal/N5

5 nalWte			Spike 5 dded	MRL Result	MRL QualiUeA	z nit	D	f ReT	f ReT% Limits		
Sulfate			L.00	4.68	I	mg/3		88	L0 - 1L0		

Lab Sample ID: 400-360c, 0-3 MS
MatA^: r ateA
5 nalWsis BatTh: 436c, 2

Client Sample ID: Mr -300
PAep xWpe: xotal/N5

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MS Result	MS QualiUeA	z nit	D	f ReT	f ReT% Limits		
Sulfate	1.4	U	10.0	9.L6		mg/3		9L	77 - 128		

Lab Sample ID: 400-360c, 0-3 MSD
MatA^: r ateA
5 nalWsis BatTh: 436c, 2

Client Sample ID: Mr -300
PAep xWpe: xotal/N5

5 nalWte	Sample Result	Sample QualiUeA	Spike 5 dded	MSD Result	MSD QualiUeA	z nit	D	f ReT	f ReT% Limits	RPD	RPD Limit
Sulfate	1.4	U	10.0	9.L2		mg/3		9L	77 - 128	0	L

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			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	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 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

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
Matrix: Water
Analysis Batch: 397457

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
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
Matrix: Water
Analysis Batch: 397457

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
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
Matrix: Water
Analysis Batch: 401115

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	0.612			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,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			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	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 IR8

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.

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-19
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-19
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-19
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-19
Texas	NELAP	6	T104704193-18-12	07-31-19
US Fish & Wildlife	Federal		058448	07-31-19
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542018-10	07-31-19
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-19
West Virginia DEP	State Program	3	381	08-31-19

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 400-160850-1
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
(850)471-6222
cheyenne.whitmire@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 8
Sample Summary 9
Client Sample Results 10
Definitions 21
Chronicle 22
QC Association 26
QC Sample Results 31
Chain of Custody 40
Receipt Checklists 41
Certification Summary 42

Job ID: 400-150860-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-150860-1

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-10L — ba4 Sample ID: 500-1806P0-1

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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 — ba4 Sample ID: 500-1806P0-L

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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-105 — ba4 Sample ID: 500-1806P0-3

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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-105 (ContinueT) — ba4 Sample ID: 500-1806P0-3

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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-10P — ba4 Sample ID: 500-1806P0-5

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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-108 — ba4 Sample ID: 500-1806P0-P

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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 — ba4 Sample ID: 500-1806P0-8

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
Barium	0.019		0.0025	0.00049	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Client Sample ID: MW-109 (ContinueT) — ba4 Sample ID: 500-1806P0-8

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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 — ba4 Sample ID: 500-1806P0-7

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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 — ba4 Sample ID: 500-1806P0-6

Rnalyte	s ef ult	AualiUer	QAb	MDb	F nit	Dil hac	D	MetdoT	Qrep 2ype
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: DF Q-03 — ba4 Sample ID: 500-1806P0-9

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: DFQ-03 (ContinueT) — ba4 Sample ID: 500-1806P0-9

Rnalyte	s ef ult	AualiUer	QAb	MDb	Fnit	Dil hac	D	MetdoT	Qrep 2ype
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: hE-0L — ba4 Sample ID: 500-1806P0-10

Rnalyte	s ef ult	AualiUer	QAb	MDb	Fnit	Dil hac	D	MetdoT	Qrep 2ype
Boron	0.080		0.050	0.021	mg/L	5		6020	Total Recoverable

Client Sample ID: BE-0L — ba4 Sample ID: 500-1806P0-11

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: 400-150860-1
SDG: Landfill 1

Method	Method Description	Protocol	Laboratory
5020	Metals (ICP/MS)	SW845	TAL PEN
7470A	Mercury (CVAA)	SW845	TAL PEN
SM 2640C	Solids, Total Dissolved (TDS)	SM	TAL PEN
SM 4600 Cl- E	Chloride, Total	SM	TAL PEN
SM 4600 F C	Fluoride	SM	TAL PEN
SM 4600 SO4 E	Sulfate, Total	SM	TAL PEN
Field Sampling	Field Sampling	EPA	TAL PEN
=006A	Preparation, Total Recoverable or Dissolved Metals	SW845	TAL PEN
7470A	Preparation, Mercury	SW845	TAL PEN

Protocol References:

EPA U" S Environmental Protection Agency

SM U xStandard Methods For The E9amination Of Water And Wastewaterx

SW845 U xTest Methods For Evaluating Solid Waste, Physical/Chemical Methodsx, Third Edition, November 1. 85 And Its " pdates3

Laboratory References:

TAL PEN U TestAmerica Pensacola, ==66 McLemore Drive, Pensacola, FL =2614, TEL (860)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: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-10r

Date Ccllectte3: 10/1v/18 1h:r 6
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-1

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 12:2B	6
. axium	0.0086		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 12:2B	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:2B	6
. cxcn	0.4		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 12:2B	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:2B	6
Caldium	0.7		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 12:2B	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 12:2B	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 12:2B	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 12:2B	6
Lit(ium	0.001r	I	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 12:2B	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 12:2B	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 12:2B	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 12:2B	6

Met(c3: 7470y - MexduxF RCVy y T

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
MexduxF	0.0000v4	I	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:33	1

Genexal C(emistxF

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	64		6.0	2.4	mg/L			10/36/18 19:13	1
C(lcxi3e	57		3.0	1.4	mg/L			10/20/18 12:68	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/38/18 13:03	1
SulBate	h94	I	6.0	1.4	mg/L			10/21/18 08:25	1

Met(c3: ziel3 Sampling - ziel3 Sampling

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
ziel3 pH	6916				SU			10/1B/18 12:36	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-10h

Date Ccllectte3: 10/18/18 14:r 0
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-r

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 12:43	6
. axium	09D6r		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 12:43	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:43	6
. cxcn	09r 6		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 12:43	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:43	6
Caldium	h91		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 12:43	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 12:43	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 12:43	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 12:43	6
Lit(ium	09D017	I	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 12:43	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 12:43	6
Selenium	09D015		0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 12:43	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 12:43	6

Met(c3: 7470y - MexduxF RCVy y T

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:34	1

Genexal C(emistxF

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	54		6.0	2.4	mg/L			10/36/18 19:24	1
C(lcxi3e	1r		3.0	1.4	mg/L			10/20/18 0B:42	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/38/18 13:05	1
SulBate	h1		6.0	1.4	mg/L			10/3B/18 0B:44	1

Met(c3: ziel3 Sampling - ziel3 Sampling

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
ziel3 pH	49vh				SU			10/18/18 14:30	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-104

Date Ccllednte3: 10/18/18 11:05
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-h

Matxio: Watex

Met(c3: 50r0 - Metals RC) /MST- Qctal Redc2exable

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
yxsenid	09001v		0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 12:45	6
. axium	09r1		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 12:45	6
. exFllium	0900084	I	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:45	6
Ca3mium	0900044	I	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:45	6
Caldium	6r		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 12:45	6
C(xcmium	0900015	I	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 12:45	6
Ccbalt	0915		0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 12:45	6
Lea3	0900r0		0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 12:45	6
Lit(ium	09rr		0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 12:45	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 12:45	6
Selenium	09004v		0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 12:45	6
Q(allium	0900r1	I	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 12:45	6

Met(c3: 50r0 - Metals RC) /MST- Qctal Redc2exable - DL

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
. cxcn	v95		1.0	0.43	mg/L		10/36/18 19:62	10/35/18 14:2B	100

Met(c3: 7470y - MexduxF RCVyyT

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
MexduxF	0900087		0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:35	1

Genexal C(emistxF

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	850		10	5.8	mg/L			10/36/18 19:24	1
C(lcxi3e	100		10	9.0	mg/L			10/3B/18 19:34	6
zlucxi3e	09r5		0.10	0.023	mg/L			10/38/18 13:10	1
SulBate	450		160	43	mg/L			10/3B/18 10:13	20

Met(c3: ziel3 Sampling - ziel3 Sampling

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
ziel3 pH	49Ir				SU			10/18/18 11:05	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-106

Date Cclledte3: 10/18/18 0v:h0
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-4

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
yxsenid	090044		0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 12:60	6
. axium	090h6		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 12:60	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:60	6
. cxcn	094h		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 12:60	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:60	6
Caldium	5h		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 12:60	6
C(xcmium	090r v		0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 12:60	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 12:60	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 12:60	6
LitMum	0.0011	U	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 12:60	6
McIFb3enum	090hr	I	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 12:60	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 12:60	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 12:60	6

Met(c3: 7470y - MexduxF RCVy y T

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:38	1

Genexal C(emistxF

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	r60		6.0	2.4	mg/L			10/36/18 19:24	1
C(lcxi3e	hr		3.0	1.4	mg/L			10/20/18 0B:42	1
zlucxi3e	090040	I	0.10	0.023	mg/L			10/38/18 13:13	1
SulBate	595		6.0	1.4	mg/L			10/3B/18 0B:44	1

Met(c3: ziel3 Sampling - ziel3 Sampling

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
ziel3 pH	591v				SU			10/18/18 0B:20	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-105

Date Ccllectte3: 10/18/18 08:16
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-6

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 12:62	6
. axium	0900v5		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 12:62	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:62	6
. cxcn	09057		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 12:62	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:62	6
Caldium	0947		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 12:62	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 12:62	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 12:62	6
Lea3	09000hv	I	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 12:62	6
Lit(ium	09001r	I	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 12:62	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 12:62	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 12:62	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 12:62	6

Met(c3: 7470y - MexduxF RCVy y T

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:3B	1

Genexal C(emistxF

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	58		6.0	2.4	mg/L			10/36/18 19:24	1
C(lcxi3e	690		3.0	1.4	mg/L			10/20/18 0B:42	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/3B/18 08:25	1
Sulfate	1.4	U	6.0	1.4	mg/L			10/3B/18 0B:44	1

Met(c3: ziel3 Sampling - ziel3 Sampling

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
ziel3 pH	6907				SU			10/18/18 08:16	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-10v

Date Ccllectte3: 10/18/18 11:00
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-5

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 12:69	6
. axium	09D1v		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 12:69	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:69	6
. cxcn	0916		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 12:69	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 12:69	6
Caldium	r93		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 12:69	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 12:69	6
Ccbalt	0900h5		0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 12:69	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 12:69	6
Lit(ium	0905r		0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 12:69	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 12:69	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 12:69	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 12:69	6

Met(c3: 7470y - MexduxF RCVy y T

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:21	1

Genexal C(emistxF

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	h4		6.0	2.4	mg/L			10/36/18 19:24	1
C(lcxi3e	796		3.0	1.4	mg/L			10/20/18 0B:42	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/3B/18 08:44	1
SulBate	891		6.0	1.4	mg/L			10/3B/18 0B:44	1

Met(c3: ziel3 Sampling - ziel3 Sampling

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
ziel3 pH	4975				SU			10/18/18 11:00	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-110

Date Ccllectte3: 10/18/18 0v:66
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-7

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 14:00	6
. axium	09Dh6		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 14:00	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:00	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:00	6
Caldium	h8		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 14:00	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 14:00	6
Ccbalt	09Dr 6		0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 14:00	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 14:00	6
Lit(ium	09D11		0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 14:00	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 14:00	6
Selenium	09D0hh		0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 14:00	6
Q(allium	09D00h1	I	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 14:00	6

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable - DL

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
. cxcn	49h		0.60	0.31	mg/L		10/36/18 19:62	10/35/18 14:42	60

Met(c3: 7470y - MexduxF RCVy y T

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
MexduxF	09D0h4		0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:22	1

Genexal C(emistxF

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	760		6.0	2.4	mg/L			10/36/18 19:24	1
C(lcxi3e	150		30	14	mg/L			10/3B/18 19:36	10
zlucxi3e	09D40	I	0.10	0.023	mg/L			10/3B/18 08:48	1
SulBate	r 80		100	38	mg/L			10/3B/18 10:13	30

Met(c3: ziel3 Sampling - ziel3 Sampling

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
ziel3 pH	49Rh				SU			10/18/18 0B:66	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-101

Date Ccllectte3: 10/18/18 07:05
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-8

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 14:04	6
. axium	09008v		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 14:04	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:04	6
. cxcn	09081		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 14:04	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:04	6
Caldium	0941		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 14:04	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 14:04	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 14:04	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 14:04	6
Lit(ium	09001h	I	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 14:04	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 14:04	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 14:04	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 14:04	6

Met(c3: 7470y - MexduxF RCVy y T

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:26	1

Genexal C(emistxF

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	r8		6.0	2.4	mg/L			10/36/18 19:13	1
C(lcxi3e	69r		3.0	1.4	mg/L			10/3B/18 15:69	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/3B/18 08:61	1
Sulfate	1.4	U	6.0	1.4	mg/L			10/3B/18 0B:4B	1

Met(c3: ziel3 Sampling - ziel3 Sampling

ynalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	ynalFUe3	Dil zad
ziel3 pH	49v7				SU			10/18/18 09:05	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: Df) -0h

Date Ccllectte3: 10/18/18 08:66
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-v

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 14:09	6
. axium	09D h5		0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 14:09	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:09	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:09	6
Caldium	h7		0.36	0.12	mg/L		10/36/18 19:62	10/35/18 14:09	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 14:09	6
Ccbalt	09Dr 6		0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 14:09	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 14:09	6
Lit(ium	09D11		0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 14:09	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 14:09	6
Selenium	09D0h4		0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 14:09	6
Q(allium	09D00h1	I	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 14:09	6

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable - DL

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
. cxcn	494		0.60	0.31	mg/L		10/36/18 19:62	10/35/18 14:49	60

Met(c3: 7470y - MexduxF RCVy y T

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
MexduxF	09D0h4		0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:29	1

Genexal C(emistxF

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Qctal Disscl2e3 Scli3s	5v0		6.0	2.4	mg/L			10/36/18 19:24	1
C(lcxi3e	150		30	14	mg/L			10/3B/18 19:36	10
zlucxi3e	09D40	I	0.10	0.023	mg/L			10/3B/18 08:64	1
SulBate	r 80		100	38	mg/L			10/3B/18 10:15	30

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: z. -0r

Date Ccllectte3: 10/18/18 14:h0
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-10

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 14:11	6
harium	0.0004B	U	0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 14:11	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:11	6
. cxcn	09080		0.060	0.031	mg/L		10/36/18 19:62	10/35/18 14:11	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:11	6
Calcium	0.12	U	0.36	0.12	mg/L		10/36/18 19:62	10/35/18 14:11	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 14:11	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 14:11	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 14:11	6
LitMum	0.0011	U	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 14:11	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 14:11	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 14:11	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 14:11	6

Met(c3: 7470y - MexduxF RCVy y T

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:01	11/01/18 14:4B	1

Genexal C(emistxF

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Total Dissolved Solids	2.4	U	6.0	2.4	mg/L			10/36/18 19:24	1
CMoride	1.4	U	3.0	1.4	mg/L			10/20/18 0B:44	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/3B/18 08:68	1
Sulfate	1.4	U	6.0	1.4	mg/L			10/3B/18 0B:4B	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: E. -0r

Date Ccllectte3: 10/18/18 11:06
Date Redei2e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-11

Matxio: Watex

Met(c3: 50r 0 - Metals RC) /MST- Qctal Redc2exable

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Arsenic	0.00045	U	0.0012	0.00045	mg/L		10/36/18 19:62	10/35/18 14:23	6
harium	0.0004B	U	0.0036	0.0004B	mg/L		10/36/18 19:62	10/35/18 14:23	6
heryllium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:23	6
horon	0.031	U	0.060	0.031	mg/L		10/36/18 19:62	10/35/18 14:23	6
Cadmium	0.00024	U	0.0036	0.00024	mg/L		10/36/18 19:62	10/35/18 14:23	6
Calcium	0.12	U	0.36	0.12	mg/L		10/36/18 19:62	10/35/18 14:23	6
CMomium	0.0011	U	0.0036	0.0011	mg/L		10/36/18 19:62	10/35/18 14:23	6
Cobalt	0.00040	U	0.0036	0.00040	mg/L		10/36/18 19:62	10/35/18 14:23	6
Lead	0.00026	U	0.0012	0.00026	mg/L		10/36/18 19:62	10/35/18 14:23	6
LitMum	0.0011	U	0.0060	0.0011	mg/L		10/36/18 19:62	10/35/18 14:23	6
7 olybdenum	0.0030	U	0.016	0.0030	mg/L		10/36/18 19:62	10/35/18 14:23	6
Selenium	0.00091	U	0.0012	0.00091	mg/L		10/36/18 19:62	10/35/18 14:23	6
TMallium	0.000086	U	0.00060	0.000086	mg/L		10/36/18 19:62	10/35/18 14:23	6

Met(c3: 7470y - MexduxF RCVy y T

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
7 ercury	0.000090	U	0.00030	0.000090	mg/L		10/21/18 10:22	11/01/18 15:04	1

Genexal C(emistxF

y nalFte	Result	AualiBex	) AL	MDL	f nit	D	) xepaxe3	y nalFUe3	Dil zad
Total Dissolved Solids	2.4	U	6.0	2.4	mg/L			10/36/18 19:13	1
CMoride	1.4	U	3.0	1.4	mg/L			10/20/18 0B:44	1
Fluoride	0.023	U	0.10	0.023	mg/L			10/3B/18 0B:03	1
Sulfate	1.4	U	6.0	1.4	mg/L			10/3B/18 0B:4B	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: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-104
Date Collecte3: 10/1R/16 1v:4x
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-1
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 13:37	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:22	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N012	10/26/18 1N:12	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N538	10/30/18 13:68	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N307	10/28/18 12:02	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41NN85	10/31/18 08:35	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/17/18 13:26	AW	TAL P9E

Client Sample ID: MW-10v
Date Collecte3: 10/16/16 15:40
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-4
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 13:42	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:24	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/30/18 07:43	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N307	10/28/18 12:05	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:44	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 14:20	AW	TAL P9E

Client Sample ID: MW-105
Date Collecte3: 10/16/16 11:08
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-v
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 13:45	DR9	TAL P9E
Total Recoverable	Prep	3006A	DL		41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020	DL	100	41N364	10/25/18 14:37	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:25	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		6	41N687	10/27/18 1N:24	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N307	10/28/18 12:10	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		30	41N358	10/27/18 10:12	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 11:05	AW	TAL P9E

Lab Chronicle

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-10x
Date Collecte3: 10/16/16 0R:v0
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-5
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 13:60	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:28	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/30/18 07:43	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N307	10/28/18 12:12	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:44	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 07:30	AW	TAL P9E

Client Sample ID: MW-108
Date Collecte3: 10/16/16 06:1x
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-x
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 13:63	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:27	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/30/18 07:43	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 08:35	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:44	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 08:16	AW	TAL P9E

Client Sample ID: MW-10R
Date Collecte3: 10/16/16 11:00
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-8
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 13:6N	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:31	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/30/18 07:43	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 08:44	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:44	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 11:00	AW	TAL P9E

Lab Chronicle

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: MW-110
Date Collecte3: 10/16/16 0R:xx
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-9
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 14:00	DR9	TAL P9E
Total Recoverable	Prep	3006A	DL		41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020	DL	60	41N364	10/25/18 14:43	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:33	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		10	41N687	10/27/18 1N:26	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 08:48	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		20	41N358	10/27/18 10:12	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 07:66	AW	TAL P9E

Client Sample ID: MW-101
Date Collecte3: 10/16/16 09:08
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-6
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 14:04	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:36	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N012	10/26/18 1N:12	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/27/18 15:6N	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 08:61	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:47	RRC	TAL P9E
Total/EA	Analysis	Bield Sampling		1	418707	10/18/18 0N:05	AW	TAL P9E

Client Sample ID: DUs-0v
Date Collecte3: 10/16/16 06:xx
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-R
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 14:0N	DR9	TAL P9E
Total Recoverable	Prep	3006A	DL		41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020	DL	60	41N364	10/25/18 14:4N	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:3N	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		10	41N687	10/27/18 1N:26	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 08:64	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		20	41N358	10/27/18 10:15	RRC	TAL P9E

Lab Chronicle

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

TestAmerica Job ID: 400-150860-1
SDG: Landfill 1

Client Sample ID: 7A-04

Date Collecte3: 10/16/16 15:v0
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-10

Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 14:11	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NNN3	10/31/18 10:01	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 14:47	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N028	10/26/18 1N:34	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/30/18 07:44	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 08:68	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:47	RRC	TAL P9E

Client Sample ID: EA-04

Date Collecte3: 10/16/16 11:0x
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-11

Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total Recoverable	Prep	3006A			41N030	10/26/18 1N:63	DR9	TAL P9E
Total Recoverable	Analysis	5020		6	41N364	10/25/18 14:32	DR9	TAL P9E
Total/EA	Prep	N4N0A			41NN8N	10/31/18 10:33	JAP	TAL P9E
Total/EA	Analysis	N4N0A		1	418015	11/01/18 15:04	JAP	TAL P9E
Total/EA	Analysis	SM 2640C		1	41N012	10/26/18 1N:12	CLF	TAL P9E
Total/EA	Analysis	SM 4600 Cl- 9		1	41N687	10/30/18 07:44	RRC	TAL P9E
Total/EA	Analysis	SM 4600 B C		1	41N351	10/27/18 07:02	FAF	TAL P9E
Total/EA	Analysis	SM 4600 SO4 9		1	41N358	10/27/18 07:47	RRC	TAL P9E

LaboratorP Teferencez:

TAL P9E = TestAmerica Pensacola, 3366 McLemore Drive, Pensacola, BL 32614, T9L (860)4N4-1001

QC Association Summary

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

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

Metals

Prep Batch: 390171

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	Total j ecoNerable	/ ater	R009A	
400-150790-M	W/ -10R	Total j ecoNerable	/ ater	R009A	
400-150790-R	W/ -104	Total j ecoNerable	/ ater	R009A	
400-150790-R- DB	W/ -104	Total j ecoNerable	/ ater	R009A	
400-150790-4	W/ -109	Total j ecoNerable	/ ater	R009A	
400-150790-9	W/ -105	Total j ecoNerable	/ ater	R009A	
400-150790-5	W/ -102	Total j ecoNerable	/ ater	R009A	
400-150790-3	W/ -110	Total j ecoNerable	/ ater	R009A	
400-150790-3 - DB	W/ -110	Total j ecoNerable	/ ater	R009A	
400-150790-7	W/ -101	Total j ecoNerable	/ ater	R009A	
400-150790-2 - DB	D8 P-0R	Total j ecoNerable	/ ater	R009A	
400-150790-2	D8 P-0R	Total j ecoNerable	/ ater	R009A	
400-150790-10	6U-0M	Total j ecoNerable	/ ater	R009A	
400-150790-11	h U-0M	Total j ecoNerable	/ ater	R009A	
WU 400-4130R0d1-A L9	Wetxok Ulanv	Total j ecoNerable	/ ater	R009A	
BCS 400-4130R0dM-A	Bab Control Sample	Total j ecoNerable	/ ater	R009A	
420-151332-A-14-U WS L9	Watri^ Spive	DissolNek	/ ater	R009A	
420-151332-A-14-C WSD L9	Watri^ Spive Duplicate	DissolNek	/ ater	R009A	

Analysis Batch: 3907d3

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-M	W/ -10R	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-R	W/ -104	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-R- DB	W/ -104	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-4	W/ -109	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-9	W/ -105	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-5	W/ -102	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-3	W/ -110	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-3 - DB	W/ -110	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-7	W/ -101	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-2	D8 P-0R	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-2 - DB	D8 P-0R	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-10	6U-0M	Total j ecoNerable	/ ater	50M0	4130R0
400-150790-11	h U-0M	Total j ecoNerable	/ ater	50M0	4130R0
WU 400-4130R0d1-A L9	Wetxok Ulanv	Total j ecoNerable	/ ater	50M0	4130R0
BCS 400-4130R0dM-A	Bab Control Sample	Total j ecoNerable	/ ater	50M0	4130R0
420-151332-A-14-U WS L9	Watri^ Spive	DissolNek	/ ater	50M0	4130R0
420-151332-A-14-C WSD L9	Watri^ Spive Duplicate	DissolNek	/ ater	50M0	4130R0

Prep Batch: 390007

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	TotaldEA	/ ater	3430A	
400-150790-M	W/ -10R	TotaldEA	/ ater	3430A	
400-150790-R	W/ -104	TotaldEA	/ ater	3430A	
400-150790-4	W/ -109	TotaldEA	/ ater	3430A	
400-150790-9	W/ -105	TotaldEA	/ ater	3430A	
400-150790-5	W/ -102	TotaldEA	/ ater	3430A	
400-150790-3	W/ -110	TotaldEA	/ ater	3430A	
400-150790-7	W/ -101	TotaldEA	/ ater	3430A	
400-150790-2	D8 P-0R	TotaldEA	/ ater	3430A	

QC Association Summary

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

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

Metals 5Continuex6

Prep Batch: 390007 5Continuex6

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-10	6U-0M	TotaldEA	/ ater	3430A	
WU 400-41333Rd14-A	Wetxok Ulanv	TotaldEA	/ ater	3430A	
BCS 400-41333Rd19-A	Bab Control Sample	TotaldEA	/ ater	3430A	
400-151154-h-1-C WS	Watri^ Spive	TotaldEA	/ ater	3430A	
400-151154-h-1-D WSD	Watri^ Spive Duplicate	TotaldEA	/ ater	3430A	

Prep Batch: 390020

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-11	hU-0M	TotaldEA	/ ater	3430A	
WU 400-413373d14-A	Wetxok Ulanv	TotaldEA	/ ater	3430A	
BCS 400-413373d19-A	Bab Control Sample	TotaldEA	/ ater	3430A	
400-1507RM-U-M-C WS	Watri^ Spive	TotaldEA	/ ater	3430A	
400-1507RM-U-M-D WSD	Watri^ Spive Duplicate	TotaldEA	/ ater	3430A	

Analysis Batch: 39219G

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	TotaldEA	/ ater	3430A	41333R
400-150790-M	W/ -10R	TotaldEA	/ ater	3430A	41333R
400-150790-R	W/ -104	TotaldEA	/ ater	3430A	41333R
400-150790-4	W/ -109	TotaldEA	/ ater	3430A	41333R
400-150790-9	W/ -105	TotaldEA	/ ater	3430A	41333R
400-150790-5	W/ -102	TotaldEA	/ ater	3430A	41333R
400-150790-3	W/ -110	TotaldEA	/ ater	3430A	41333R
400-150790-7	W/ -101	TotaldEA	/ ater	3430A	41333R
400-150790-2	D8P-0R	TotaldEA	/ ater	3430A	41333R
400-150790-10	6U-0M	TotaldEA	/ ater	3430A	41333R
400-150790-11	hU-0M	TotaldEA	/ ater	3430A	413373
WU 400-41333Rd14-A	Wetxok Ulanv	TotaldEA	/ ater	3430A	41333R
WU 400-413373d14-A	Wetxok Ulanv	TotaldEA	/ ater	3430A	413373
BCS 400-41333Rd19-A	Bab Control Sample	TotaldEA	/ ater	3430A	41333R
BCS 400-413373d19-A	Bab Control Sample	TotaldEA	/ ater	3430A	413373
400-1507RM-U-M-C WS	Watri^ Spive	TotaldEA	/ ater	3430A	413373
400-1507RM-U-M-D WSD	Watri^ Spive Duplicate	TotaldEA	/ ater	3430A	413373
400-151154-h-1-C WS	Watri^ Spive	TotaldEA	/ ater	3430A	41333R
400-151154-h-1-D WSD	Watri^ Spive Duplicate	TotaldEA	/ ater	3430A	41333R

8 eneral Chemistry

Analysis Batch: 39019(

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	TotaldEA	/ ater	SW M940C	
400-150790-7	W/ -101	TotaldEA	/ ater	SW M940C	
400-150790-11	hU-0M	TotaldEA	/ ater	SW M940C	
WU 400-41301Md1	Wetxok Ulanv	TotaldEA	/ ater	SW M940C	
BCS 400-41301MdM	Bab Control Sample	TotaldEA	/ ater	SW M940C	
400-150244-C-1 D8	Duplicate	TotaldEA	/ ater	SW M940C	
400-1510R1-h-9 D8	Duplicate	TotaldEA	/ ater	SW M940C	

8 eneral Chemistry 5Continuex6

Analysis Batch: 3901(2

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-M	W/ -10R	TotaldEA	/ ater	SW M940C	
400-150790-R	W/ -104	TotaldEA	/ ater	SW M940C	
400-150790-4	W/ -109	TotaldEA	/ ater	SW M940C	
400-150790-9	W/ -105	TotaldEA	/ ater	SW M940C	
400-150790-5	W/ -102	TotaldEA	/ ater	SW M940C	
400-150790-3	W/ -110	TotaldEA	/ ater	SW M940C	
400-150790-2	D8 P-0R	TotaldEA	/ ater	SW M940C	
400-150790-10	6U-0M	TotaldEA	/ ater	SW M940C	
WU 400-4130M7dl	Wetxok Ulanv	TotaldEA	/ ater	SW M940C	
BCS 400-4130M7dM	Bab Control Sample	TotaldEA	/ ater	SW M940C	
400-150790-4 D8	W/ -109	TotaldEA	/ ater	SW M940C	
400-150790-2 D8	D8 P-0R	TotaldEA	/ ater	SW M940C	

Analysis Batch: 39071)

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	TotaldEA	/ ater	SW 4900 6 C	
400-150790-M	W/ -10R	TotaldEA	/ ater	SW 4900 6 C	
400-150790-R	W/ -104	TotaldEA	/ ater	SW 4900 6 C	
400-150790-4	W/ -109	TotaldEA	/ ater	SW 4900 6 C	
WU 400-413R02dR	Wetxok Ulanv	TotaldEA	/ ater	SW 4900 6 C	
BCS 400-413R02d4	Bab Control Sample	TotaldEA	/ ater	SW 4900 6 C	
400-150357-I-1 WS	Watri^ Spive	TotaldEA	/ ater	SW 4900 6 C	
400-150357-I-1 WSD	Watri^ Spive Duplicate	TotaldEA	/ ater	SW 4900 6 C	
400-150714-A-4 D8	Duplicate	TotaldEA	/ ater	SW 4900 6 C	

Analysis Batch: 3907G9

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-9	W/ -105	TotaldEA	/ ater	SW 4900 6 C	
400-150790-5	W/ -102	TotaldEA	/ ater	SW 4900 6 C	
400-150790-3	W/ -110	TotaldEA	/ ater	SW 4900 6 C	
400-150790-7	W/ -101	TotaldEA	/ ater	SW 4900 6 C	
400-150790-2	D8 P-0R	TotaldEA	/ ater	SW 4900 6 C	
400-150790-10	6U-0M	TotaldEA	/ ater	SW 4900 6 C	
400-150790-11	hU-0M	TotaldEA	/ ater	SW 4900 6 C	
WU 400-413R51dR	Wetxok Ulanv	TotaldEA	/ ater	SW 4900 6 C	
BCS 400-413R51d4	Bab Control Sample	TotaldEA	/ ater	SW 4900 6 C	
400-150790-9 WS	W/ -105	TotaldEA	/ ater	SW 4900 6 C	
400-150790-9 WSD	W/ -105	TotaldEA	/ ater	SW 4900 6 C	
400-1502R0-C-MD8	Duplicate	TotaldEA	/ ater	SW 4900 6 C	

Analysis Batch: 3907G2

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-M	W/ -10R	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-R	W/ -104	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-4	W/ -109	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-9	W/ -105	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-5	W/ -102	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-3	W/ -110	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-7	W/ -101	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-2	D8 P-0R	TotaldEA	/ ater	SW 4900 SO4 h	
400-150790-10	6U-0M	TotaldEA	/ ater	SW 4900 SO4 h	

QC Association Summary

Client: Gulf Power Company
Project Site: CCj Plant Crist

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

8 eneral Chemistry 5 Continuex 6

Analysis Batch: 3907G2 5 Continuex 6

4aL Sample b	Client Sample b	Prep Dype	MatriT	Methox	Prep Batch
400-150790-11	h U-0M	Total EA	/ ater	SW 4900 SO4 h	
WU 400-413R57d5	Wetxok Ulanv	Total EA	/ ater	SW 4900 SO4 h	
BCS 400-413R57d3	Bab Control Sample	Total EA	/ ater	SW 4900 SO4 h	
Wj B 400-413R57dR	Bab Control Sample	Total EA	/ ater	SW 4900 SO4 h	
400-150751-O-1 WS	Watri^ Spive	Total EA	/ ater	SW 4900 SO4 h	
400-150751-O-1 WSD	Watri^ Spive Duplicate	Total EA	/ ater	SW 4900 SO4 h	
450-15313M-h-1 WS	Watri^ Spive	Total EA	/ ater	SW 4900 SO4 h	
450-15313M-h-1 WSD	Watri^ Spive Duplicate	Total EA	/ ater	SW 4900 SO4 h	

Analysis Batch: 390d2)

4aL Sample b	Client Sample b	Prep Dype	MatriT	Methox	Prep Batch
400-150790-M	W/ -10R	Total EA	/ ater	SW 4900 Cl- h	
400-150790-R	W/ -104	Total EA	/ ater	SW 4900 Cl- h	
400-150790-4	W/ -109	Total EA	/ ater	SW 4900 Cl- h	
400-150790-9	W/ -105	Total EA	/ ater	SW 4900 Cl- h	
400-150790-5	W/ -102	Total EA	/ ater	SW 4900 Cl- h	
400-150790-3	W/ -110	Total EA	/ ater	SW 4900 Cl- h	
400-150790-7	W/ -101	Total EA	/ ater	SW 4900 Cl- h	
400-150790-2	D8 P-0R	Total EA	/ ater	SW 4900 Cl- h	
400-150790-10	6 U-0M	Total EA	/ ater	SW 4900 Cl- h	
400-150790-11	h U-0M	Total EA	/ ater	SW 4900 Cl- h	
WU 400-413972d5	Wetxok Ulanv	Total EA	/ ater	SW 4900 Cl- h	
BCS 400-413972d3	Bab Control Sample	Total EA	/ ater	SW 4900 Cl- h	
Wj B 400-413972dR	Bab Control Sample	Total EA	/ ater	SW 4900 Cl- h	
400-150790-7 WS	W/ -101	Total EA	/ ater	SW 4900 Cl- h	
400-150790-7 WSD	W/ -101	Total EA	/ ater	SW 4900 Cl- h	

Analysis Batch: 390G72

4aL Sample b	Client Sample b	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	Total EA	/ ater	SW 4900 Cl- h	
WU 400-4135R7d5	Wetxok Ulanv	Total EA	/ ater	SW 4900 Cl- h	
BCS 400-4135R7d3	Bab Control Sample	Total EA	/ ater	SW 4900 Cl- h	
Wj B 400-4135R7dR	Bab Control Sample	Total EA	/ ater	SW 4900 Cl- h	
400-151104-A-1 WS	Watri^ Spive	Total EA	/ ater	SW 4900 Cl- h	
400-151104-A-1 WSD	Watri^ Spive Duplicate	Total EA	/ ater	SW 4900 Cl- h	

Analysis Batch: 39002G

4aL Sample b	Client Sample b	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	Total EA	/ ater	SW 4900 SO4 h	
WU 400-413375d5	Wetxok Ulanv	Total EA	/ ater	SW 4900 SO4 h	
BCS 400-413375d3	Bab Control Sample	Total EA	/ ater	SW 4900 SO4 h	
Wj B 400-413375dR	Bab Control Sample	Total EA	/ ater	SW 4900 SO4 h	
400-150257-U-2 WS	Watri^ Spive	Total EA	/ ater	SW 4900 SO4 h	
400-150257-U-2 WSD	Watri^ Spive Duplicate	Total EA	/ ater	SW 4900 SO4 h	

Fielx Service / MoLile 4aL

Analysis Batch: 392) 1)

4aL Sample b	Client Sample b	Prep Dype	MatriT	Methox	Prep Batch
400-150790-1	W/ -10M	Total EA	/ ater	6ielk SamplinF	

QC Association Summary

Client: Gulf Power Company
Project Site: CCj Plant Crist

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

Fielx Service / MoLile 4aL 5Continuex6

Analysis Batch: 392) 1) 5Continuex6

4aL Sample Id	Client Sample Id	Prep Dype	MatriT	Methox	Prep Batch
400-150790-M	W/ -10R	TotaldEA	/ ater	6ielk SamplinF	
400-150790-R	W/ -104	TotaldEA	/ ater	6ielk SamplinF	
400-150790-4	W/ -109	TotaldEA	/ ater	6ielk SamplinF	
400-150790-9	W/ -105	TotaldEA	/ ater	6ielk SamplinF	
400-150790-5	W/ -102	TotaldEA	/ ater	6ielk SamplinF	
400-150790-3	W/ -110	TotaldEA	/ ater	6ielk SamplinF	
400-150790-7	W/ -101	TotaldEA	/ ater	6ielk SamplinF	

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 400-439050/3-7 1A
Mat^ir : x ate^
7 nalTsis Batyh: 4395A4

Client Sample ID: Method Blank
P^ep WTpe: Wotal Reyoce^able
P^ep Batyh: 439050

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
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 400-439050/2-7
Mat^ir : x ate^
7 nalTsis Batyh: 4395A4

Client Sample ID: Lab Cont^ol Sample
P^ep WTpe: Wotal Reyoce^able
P^ep Batyh: 439050

7 nalTte	Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% 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: 4. 0-36399. -7 -34-B MS 1A
Mat^ir : x ate^
7 nalTsis Batyh: 4395A4

Client Sample ID: Mat^ir Spike
P^ep WTpe: Dissolced
P^ep Batyh: 439050

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% 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: 4. 0-36399. -7 -34-B MS 1A — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Dissolced**
7 nalTsis Batyh: 4395A4 — **P^ep Batyh: 439050**

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% 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: 4. 0-36399. -7 -34-C MSD 1A — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Dissolced**
7 nalTsis Batyh: 4395A4 — **P^ep Batyh: 439050**

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% 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: 94907 - Me^yu^T (CV7 7)

Lab Sample ID: MB 400-439995/34-7 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439995**

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
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 400-439995/3A-7 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439995**

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Mercury			0.00101	0.00102		mg/L		101	80 - 120		

Lab Sample ID: 400-363364-, -3-C MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439995**

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Mercury	0.000070	U	0.00201	0.00151	J3	mg/L		75	80 - 120		

Method: 94907 - Me^yu^T (CV7 7) (Continued)

Lab Sample ID: 400-363364-, -3-D MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439995**

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00141	J3	mg/L		70	80 - 120	7	20

Lab Sample ID: MB 400-439989/34-7 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439989**

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
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 400-439989/3A-7 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439989**

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Mercury			0.00101	0.00105		mg/L		104	80 - 120		

Lab Sample ID: 400-360852-B-2-C MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439989**

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Mercury	0.000070	U	0.00201	0.00208		mg/L		103	80 - 120		

Lab Sample ID: 400-360852-B-2-D MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 438036 — **P^ep Batyh: 439989**

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Mercury	0.000070	U	0.00201	0.00208		mg/L		103	80 - 120	0	20

Method: SM 2A40C - SolidsEWotal Dissolced (WDS)

Lab Sample ID: MB 400-439032/3 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439032

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			10/25/18 17:12	1

Lab Sample ID: LCS 400-439032/2 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439032

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Total Dissolved Solids			293	300		mg/L		102	78 - 122		

Method: SM 2A40C - SolidsEWotal Dissolced (WDS) (Continued)

Lab Sample ID: 400-360. 44-C-3 Dz
Mat^ir : x ate^
7 nalTsis Batyh: 439032

Client Sample ID: Dupliyate
P^ep WTpe: Wotal/N7

7 nalTte	Sample Result	Sample QualiUe^		Dz Result	Dz QualiUe^	z nit	D			RPD	RPD Limit
Total Dissolved Solids	68			66.0		mg/L				3	5

Lab Sample ID: 400-363053-, -A Dz
Mat^ir : x ate^
7 nalTsis Batyh: 439032

Client Sample ID: Dupliyate
P^ep WTpe: Wotal/N7

7 nalTte	Sample Result	Sample QualiUe^		Dz Result	Dz QualiUe^	z nit	D			RPD	RPD Limit
Total Dissolved Solids	230			232		mg/L				0.9	5

Lab Sample ID: MB 400-439028/3
Mat^ir : x ate^
7 nalTsis Batyh: 439028

Client Sample ID: Method Blank
P^ep WTpe: Wotal/N7

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Total Dissolved Solids	3.4	U	5.0	3.4	mg/L			10/25/18 17:34	1

Lab Sample ID: LCS 400-439028/2
Mat^ir : x ate^
7 nalTsis Batyh: 439028

Client Sample ID: Lab Cont^ol Sample
P^ep WTpe: Wotal/N7

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Total Dissolved Solids			293	290		mg/L		99	78 - 122		

Lab Sample ID: 400-3608A0-4 Dz
Mat^ir : x ate^
7 nalTsis Batyh: 439028

Client Sample ID: Mx -30A
P^ep WTpe: Wotal/N7

7 nalTte	Sample Result	Sample QualiUe^		Dz Result	Dz QualiUe^	z nit	D			RPD	RPD Limit
Total Dissolved Solids	250			250		mg/L				0	5

Lab Sample ID: 400-3608A0-. Dz
Mat^ir : x ate^
7 nalTsis Batyh: 439028

Client Sample ID: Dz P-05
P^ep WTpe: Wotal/N7

7 nalTte	Sample Result	Sample QualiUe^		Dz Result	Dz QualiUe^	z nit	D			RPD	RPD Limit
Total Dissolved Solids	690			692		mg/L				0.3	5

Method: SM 4A00 Cl- , - Chlo^ideEWotal

Lab Sample ID: MB 400-439A8. /6
Mat^ir : x ate^
7 nalTsis Batyh: 439A8.

Client Sample ID: Method Blank
P^ep WTpe: Wotal/N7

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Chloride	1.4	U	2.0	1.4	mg/L			10/29/18 16:54	1

Method: SM 4A00 Cl- , - Chlo^ideEWbtal (Continued)

Lab Sample ID: LCS 400-439A8. /9 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439A8.

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Chloride			30.0	32.4		mg/L		108	90 - 110		

Lab Sample ID: MRL 400-439A8. /5 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439A8.

7 nalTte			Spike 7 dded	MRL Result	MRL QualiUe^	z nit	D	f Rey	f Rey% Limits		
Chloride			2.00	2.12		mg/L		106	50 - 150		

Lab Sample ID: 400-3608A0-8 MS — **Client Sample ID: Mx -303**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439A8.

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Chloride	5.2		10.0	16.3		mg/L		111	73 - 120		

Lab Sample ID: 400-3608A0-8 MSD — **Client Sample ID: Mx -303**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439A8.

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Chloride	5.2		10.0	16.1		mg/L		109	73 - 120	1	8

Lab Sample ID: MB 400-439658/6 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439658

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Chloride	1.4	U	2.0	1.4	mg/L			10/30/18 13:58	1

Lab Sample ID: LCS 400-439658/9 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439658

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Chloride			30.0	31.5		mg/L		105	90 - 110		

Lab Sample ID: MRL 400-439658/5 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439658

7 nalTte			Spike 7 dded	MRL Result	MRL QualiUe^	z nit	D	f Rey	f Rey% Limits		
Chloride			2.00	1.82	I	mg/L		91	50 - 150		

Lab Sample ID: 400-363304-7 -3 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439658

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Chloride	4.3		10.0	16.2		mg/L		118	73 - 120		

QC Sample Results

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

TestAmerica Job ID: 400-160850-1
SDG: Landfill 1

Lab Sample ID: 400-363304-7 -3 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439658

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Chloride	4.3		10.0	16.2		mg/L		119	73 - 120	0	8

Method: SM 4A00 v C - vluo^ide

Lab Sample ID: MB 400-43950. /5 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 43950.

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Fluoride	0.032	U	0.10	0.032	mg/L			10/28/18 11:00	1

Lab Sample ID: LCS 400-43950. /4 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 43950.

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Fluoride			4.00	4.26		mg/L		107	90 - 110		

Lab Sample ID: 400-360968-I-3 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 43950.

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Fluoride	0.52		1.00	1.63		mg/L		111	75 - 125		

Lab Sample ID: 400-360968-I-3 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 43950.

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Fluoride	0.52		1.00	1.63		mg/L		111	75 - 125	0	4

Lab Sample ID: 400-360834-7 -4 Dz — **Client Sample ID: Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 43950.

7 nalTte	Sample Result	Sample QualiUe^		Dz Result	Dz QualiUe^	z nit	D			RPD	RPD Limit
Fluoride	0.032	U		0.032	U	mg/L				NC	4

Lab Sample ID: MB 400-439563/5 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wbtal/N7**
7 nalTsis Batyh: 439563

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Fluoride	0.032	U	0.10	0.032	mg/L			10/29/18 08:24	1

Method: SM 4A00 v C - vluo^ide (Continued)

Lab Sample ID: LCS 400-439563/4 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439563

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Fluoride			4.00	4.26		mg/L		107	90 - 110		

Lab Sample ID: 400-3608A0-A MS — **Client Sample ID: Mx -306**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439563

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Fluoride	0.032	U	1.00	1.14		mg/L		114	75 - 125		

Lab Sample ID: 400-3608A0-A MSD — **Client Sample ID: Mx -306**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439563

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Fluoride	0.032	U	1.00	1.14		mg/L		114	75 - 125	0	4

Lab Sample ID: 400-360. 50-C-2 Dz — **Client Sample ID: Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439563

7 nalTte	Sample Result	Sample QualiUe^		Dz Result	Dz QualiUe^	z nit	D			RPD	RPD Limit
Fluoride	0.78			0.770		mg/L				1	4

Method: SM 4A00 SO4 , - SulUateEWotal

Lab Sample ID: MB 400-439568/6 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Sulfate	1.4	U	5.0	1.4	mg/L			10/29/18 09:38	1

Lab Sample ID: LCS 400-439568/9 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Sulfate			15.0	13.9		mg/L		93	90 - 110		

Lab Sample ID: MRL 400-439568/5 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte			Spike 7 dded	MRL Result	MRL QualiUe^	z nit	D	f Rey	f Rey% Limits		
Sulfate			5.00	4.11	I	mg/L		82	50 - 150		

Method: SM 4A00 SO4 , - SulUateEWotal (Continued)

Lab Sample ID: 400-360863-O-3 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Sulfate	1.4	U	10.0	1.4	U J3	mg/L		0	77 - 128		

Lab Sample ID: 400-360863-O-3 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Sulfate	1.4	U	10.0	1.4	U J3	mg/L		0	77 - 128	NC	5

Lab Sample ID: 460-369392-, -3 MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Sulfate	38		10.0	43.1	J3	mg/L		48	77 - 128		

Lab Sample ID: 460-369392-, -3 MSD — **Client Sample ID: Mat^ir Spike Dupliyate**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439568

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% Limits	RPD	RPD Limit
Sulfate	38		10.0	43.7	J3	mg/L		54	77 - 128	1	5

Lab Sample ID: MB 400-439986/6 — **Client Sample ID: Method Blank**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439986

7 nalTte	MB Result	MB QualiUe^	PQL	MDL	z nit	D	P^epa^ed	7 nalTFed	Dil vay
Sulfate	1.4	U	5.0	1.4	mg/L			10/31/18 08:36	1

Lab Sample ID: LCS 400-439986/9 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439986

7 nalTte			Spike 7 dded	LCS Result	LCS QualiUe^	z nit	D	f Rey	f Rey% Limits		
Sulfate			15.0	14.8		mg/L		98	90 - 110		

Lab Sample ID: MRL 400-439986/5 — **Client Sample ID: Lab Cont^ol Sample**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439986

7 nalTte			Spike 7 dded	MRL Result	MRL QualiUe^	z nit	D	f Rey	f Rey% Limits		
Sulfate			5.00	4.11	I	mg/L		82	50 - 150		

Lab Sample ID: 400-360. 68-B-. MS — **Client Sample ID: Mat^ir Spike**
Mat^ir : x ate^ — **P^ep WTpe: Wotal/N7**
7 nalTsis Batyh: 439986

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MS Result	MS QualiUe^	z nit	D	f Rey	f Rey% 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: 400-360. 68-B-. MSD
Mat^ir : x ate^
7 nalTsis Batyh: 439986

Client Sample ID: Mat^ir Spike Dupliyate
P^ep WTpe: Wotal/N7

7 nalTte	Sample Result	Sample QualiUe^	Spike 7 dded	MSD Result	MSD QualiUe^	z nit	D	f Rey	f Rey% 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	0855		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.
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: 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: 150860
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

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: 400-160850-2
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: 400-150860-2
SDG: Landfill 1

Method	Method Description	Protocol	Laboratory
9316	Radium-225 (GFPC)	SW845	TAL SL
9320	Radium-228 (GFPC)	SW845	TAL SL
Ra225_Ra228	Combined Radium-225 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation" Precipitate Separation	=one	TAL SL
PrecSep-21	Preparation" Precipitate Separation (21-Day In-GrowtM)	=one	TAL SL

Protocol References:

=one h =one

SW845 h ETest v etMbds For g, aluatinN Solid Waste" PMysical/CMemical v etMbdsE" TMrd gdition" =o, ember 1985 And Its Updates.

TAL-STL h TestAmerica Laboratories" St. Louis" Facility Standard OperatinN Procedure.

Laboratory References:

TAL SL h TestAmerica St. Louis" 13716 Rider Trail =ortM gartMCity" v O 53046" TgL (314)298-8655

Sample Summary

I rieGt: u f nPwop er I omyaGS
wro/ectRLite: I I M wraGt I rist

TestAmerica Job ID: 400-160850-C
LDu : daGj Pm1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160850-1	W2 -10C	2 ater	10R19R18 13:C5	10R19R18 14:10
400-160850-C	W2 -103	2 ater	10R18R18 14:C0	10R19R18 14:10
400-160850-3	W2 -104	2 ater	10R18R18 11:06	10R19R18 14:10
400-160850-4	W2 -105	2 ater	10R18R18 09:30	10R19R18 14:10
400-160850-5	W2 -106	2 ater	10R18R18 08:15	10R19R18 14:10
400-160850-6	W2 -109	2 ater	10R18R18 11:00	10R19R18 14:10
400-160850-7	W2 -110	2 ater	10R18R18 09:55	10R19R18 14:10
400-160850-8	W2 -101	2 ater	10R18R18 07:06	10R19R18 14:10
400-160850-9	DUw-03	2 ater	10R18R18 08:55	10R19R18 14:10
400-160850-10	FB-0C	2 ater	10R18R18 14:30	10R19R18 14:10
400-160850-11	EB-0C	2 ater	10R18R18 11:05	10R19R18 14:10

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-10r

Date Cclledte3: 10/1v/18 1h:r 6
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-1

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	0.61v		0.192	0.193	1.00	0.201	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.5*		*40 - 110*	*103/ 43/16 189:36*	*113/1: 3/16 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	0.48h		0.277	0.273	1.00	0.771	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.5*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*
Y Carrier	*60.7*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	1.00		0.702	0.708	6.00	0.771	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-10h

Date Cclledte3: 10/18/18 14:r 0
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-r

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	1.v_		0.741	0.784	1.00	0.139	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.4*		*40 - 110*	*103/ 43/16 189:36*	*113/1: 3/16 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	h.5r		0.492	0.694	1.00	0.446	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*65.4*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*
Y Carrier	*75.2*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	6.6v		0.699	0.303	6.00	0.446	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-104

Date Cclledte3: 10/18/18 11:05
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-h

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	r.r4		0.763	0.410	1.00	0.133	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5/.0*		*40 - 110*	*103/43/6 189:36*	*113/1:3/6 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	v.8r		0.344	1.13	1.00	0.408	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5/.0*		*40 - 110*	*103/43/6 149:00*	*113/183/6 129:/*	*1*
Y Carrier	*7:.1*		*40 - 110*	*103/43/6 149:00*	*113/183/6 129:/*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	1r.1		0.826	1.24	6.00	0.408	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-106

Date Cclledte3: 10/18/18 0v:h0
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-4

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	1.1h		0.704	0.720	1.00	0.244	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*54.4*		*40 - 110*	*103/ 43/16 189:36*	*113/1: 3/16 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	1._5		0.431	0.498	1.00	0.689	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*54.4*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*
Y Carrier	*76.5*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	r .8v		0.651	0.692	6.00	0.689	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-105

Date Cclledte3: 10/18/18 08:16
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-6

Matxio: Watex

Met2c3: vh16 - Ra3ium-rr5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-rr5	0.h06		0.145	0.148	1.00	0.152	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*56./*		*40 - 110*	*103/ 4316 18986*	*1131: 316 18905*	*1*

Met2c3: vhr0 - Ra3ium-rr8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-rr8	0._41		0.238	0.285	1.00	0.736	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*56./*		*40 - 110*	*103/ 4316 14900*	*11318316 129 /*	*1*
Y Carrier	*77.0*		*40 - 110*	*103/ 4316 14900*	*11318316 129 /*	*1*

Met2c3: Rarr5TRarr8 - Ccmbine3 Ra3ium-rr5 an3 Ra3ium-rr8

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium rr5 7 rr8	1.06		0.714	0.722	6.00	0.736	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-10v

Date Cclledte3: 10/18/18 11:00
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-5

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	0.885		0.223	0.241	1.00	0.157	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5: .0*		*40 - 110*	*103/ 43/16 189:36*	*113/1: 3/16 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	0.88r		0.299	0.709	1.00	0.797	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5: .0*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*
Y Carrier	*76.5*		*40 - 110*	*103/ 43/16 149:00*	*113/183/16 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	1.__		0.736	0.792	6.00	0.797	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-110

Date Cclledte3: 10/18/18 0v:66
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-_

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	r._r		0.784	0.466	1.00	0.135	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*52./*		*40 - 110*	*103/ 43/6 189:36*	*113/: 3/6 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	4.60		0.673	0.538	1.00	0.464	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*52./*		*40 - 110*	*103/ 43/6 149:00*	*113/83/6 129 /*	*1*
Y Carrier	*7: .:*		*40 - 110*	*103/ 43/6 149:00*	*113/83/6 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	_.r r		0.550	0.813	6.00	0.464	pCi/L		11/19/18 15:49	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-101

Date Cclledte3: 10/18/18 0_:05
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-8

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	0.50r		0.196	0.202	1.00	0.155	pCi/L	10/24/18 17:78	11/16/18 17:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.1*		*40 - 110*	*103/ 43/6 189:36*	*113/: 3/6 189:05*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Radium-228	0.742	U	0.231	0.237	1.00	0.429	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*57.1*		*40 - 110*	*103/ 43/6 149:00*	*113/83/6 129 /*	*1*
Y Carrier	*76.1*		*40 - 110*	*103/ 43/6 149:00*	*113/83/6 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	0.v44		0.774	0.740	6.00	0.429	pCi/L		11/19/18 15:61	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: Dz P-0h

Date Cclledte3: 10/18/18 08:66
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-v

Matxio: Watex

Met2c3: vh16 - Ra3ium-r r 5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 5	r .h6		0.763	0.416	1.00	0.197	pCi/L	10/24/18 17:78	11/16/18 17:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*51./*		*40 - 110*	*103/ 43/6 189936*	*113/: 3/6 189/ /*	*1*

Met2c3: vhr 0 - Ra3ium-r r 8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-r r 8	4.r_		0.605	0.541	1.00	0.732	pCi/L	10/24/18 14:00	11/17/18 15:62	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*51./*		*40 - 110*	*103/ 43/6 149900*	*113/83/6 129 /*	*1*
Y Carrier	*6/ ./*		*40 - 110*	*103/ 43/6 149900*	*113/83/6 129 /*	*1*

Met2c3: Rar r 5TRar r 8 - Ccmbine3 Ra3ium-r r 5 an3 Ra3ium-r r 8

Analyte	Result	UualiQex	Ccunt z ndext. (r σ7/-)	f ctal z ndext. (r σ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ccmbine3 Ra3ium r r 5 7 r r 8	5.5h		0.519	0.354	6.00	0.732	pCi/L		11/19/18 15:61	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: FE-0r

Date Cclledte3: 10/18/18 14:h0
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-10

Matxio: Watex

Met2c3: vh16 - Ra3ium-rr5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Radium-225	0.140	U	0.116	0.115	1.00	0.158	pCi/L	10/24/18 17:78	11/16/18 17:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*50.0*		*40 - 110*	*103/ 4316 18986*	*1131: 316 1891/*	*1*

Met2c3: vhr0 - Ra3ium-rr8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Radium-228	-0.0136	U	0.225	0.225	1.00	0.412	pCi/L	10/24/18 14:00	11/17/18 15:67	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*50.0*		*40 - 110*	*103/ 4316 14900*	*11318316 129 8*	*1*
Y Carrier	*60.4*		*40 - 110*	*103/ 4316 14900*	*11318316 129 8*	*1*

Met2c3: Rarr5TRarr8 - Ccmbine3 Ra3ium-rr5 an3 Ra3ium-rr8

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Combined Radium 225 + 228	0.127	U	0.264	0.264	6.00	0.412	pCi/L		11/19/18 15:61	1

Client Sample Results

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: BE-0r

Date Cclledte3: 10/18/18 11:06
Date Redei9e3: 10/1v/18 14:10

Lab Sample ID: 400-150860-11

Matxio: Watex

Met2c3: vh16 - Ra3ium-rr5 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Ra3ium-rr5	0.r0h		0.116	0.113	1.00	0.170	pCi/L	10/24/18 17:78	11/16/18 17:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5: .5*		*40 - 110*	*103/ 4316 18986*	*1131: 316 1891/*	*1*

Met2c3: vhr0 - Ra3ium-rr8 (GFPC)

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Radium-228	-0.244	U	0.277	0.274	1.00	0.463	pCi/L	10/24/18 14:00	11/17/18 15:67	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*5: .5*		*40 - 110*	*103/ 4316 14900*	*11318316 129 8*	*1*
Y Carrier	*76.5*		*40 - 110*	*103/ 4316 14900*	*11318316 129 8*	*1*

Met2c3: Rarr5TRarr8 - Ccmbine3 Ra3ium-rr5 an3 Ra3ium-rr8

Analyte	Result	UualiQex	Ccunt z ndext. (rσ7/-)	f ctal z ndext. (rσ7/-)	RL	MDC	z nit	Pxepaxe3	Analy+e3	Dil Fad
Combined Radium 225 + 228	-0.0412	U	0.250	0.252	6.00	0.463	pCi/L		11/19/18 15:61	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: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-104
Date Collecte3: 10/1R/16 1v:4x
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-1
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Client Sample ID: MW-10v
Date Collecte3: 10/16/16 15:40
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-4
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Client Sample ID: MW-105
Date Collecte3: 10/16/16 11:08
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-v
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Client Sample ID: MW-10x
Date Collecte3: 10/16/16 0R:v0
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-5
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: MW-108

Lab Sample ID: 500-1806x0-x
Date Collecte3: 10/16/16 06:1x
Matrid: Water
Date Teceiye3: 10/1R/16 15:10

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Client Sample ID: MW-10R

Lab Sample ID: 500-1806x0-8
Date Collecte3: 10/16/16 11:00
Matrid: Water
Date Teceiye3: 10/1R/16 15:10

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Client Sample ID: MW-110

Lab Sample ID: 500-1806x0-9
Date Collecte3: 10/16/16 0R:xx
Matrid: Water
Date Teceiye3: 10/1R/16 15:10

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:49	RT_	TAL SL

Client Sample ID: MW-101

Lab Sample ID: 500-1806x0-6
Date Collecte3: 10/16/16 09:08
Matrid: Water
Date Teceiye3: 10/1R/16 15:10

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7 A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7 A	Analysis	9316		1	401090	11/16/18 13:09	CDR	TAL SL
Total/7 A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7 A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7 A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:61	RT_	TAL SL

Lab Chronicle

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Client Sample ID: DUs-0v
Date Collecte3: 10/16/16 06:xx
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-R
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7A	Analysis	9316		1	401091	11/16/18 13:12	CDR	TAL SL
Total/7A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7A	Analysis	9320		1	400N04	11/13/18 15:62	CDR	TAL SL
Total/7A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:61	RT_	TAL SL

Client Sample ID: 7A-04
Date Collecte3: 10/16/16 15:v0
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-10
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7A	Analysis	9316		1	401091	11/16/18 13:12	CDR	TAL SL
Total/7A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7A	Analysis	9320		1	400N04	11/13/18 15:63	CDR	TAL SL
Total/7A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:61	RT_	TAL SL

Client Sample ID: EA-04
Date Collecte3: 10/16/16 11:0x
Date Teceiye3: 10/1R/16 15:10

Lab Sample ID: 500-1806x0-11
Matrid: Water

srep BPpe	Aatch BPpe	Aatch Metho3	TNn	DilNtion 7actor	Aatch 2Nmber	srepare3 or unalPFe3	unalPzt	Lab
Total/7A	Prep	PrecSep-21			39N0N5	10/24/18 13:38	JLC	TAL SL
Total/7A	Analysis	9316		1	401091	11/16/18 13:12	CDR	TAL SL
Total/7A	Prep	PrecSepM0			39N126	10/24/18 14:00	JLC	TAL SL
Total/7A	Analysis	9320		1	400N04	11/13/18 15:63	CDR	TAL SL
Total/7A	Analysis	Ra225MRa228		1	4015N2	11/19/18 15:61	RT_	TAL SL

LaboratorP Teferencez:
TAL SL = TestAmerica St. Louis, 13N16 Rider Trail 7orth, Earth City, _ O 53046, TEL (314)298-8655

QC Association Summary

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

TestAmerica Job ID: 400-150860-2
SDG: Landfill 1

Rad

Prep Batch: 397076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-150860-1	MW-102	Total/NA	Water	PrecSep-21	
400-150860-2	MW-103	Total/NA	Water	PrecSep-21	
400-150860-3	MW-104	Total/NA	Water	PrecSep-21	
400-150860-4	MW-106	Total/NA	Water	PrecSep-21	
400-150860-6	MW-105	Total/NA	Water	PrecSep-21	
400-150860-5	MW-107	Total/NA	Water	PrecSep-21	
400-150860-9	MW-110	Total/NA	Water	PrecSep-21	
400-150860-8	MW-101	Total/NA	Water	PrecSep-21	
400-150860-7	DUP-03	Total/NA	Water	PrecSep-21	
400-150860-10	EB-02	Total/NA	Water	PrecSep-21	
400-150860-11	FB-02	Total/NA	Water	PrecSep-21	
MB 150-379095/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 150-379095/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
580-167636-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
400-150860-1	MW-102	Total/NA	Water	PrecSep_0	
400-150860-2	MW-103	Total/NA	Water	PrecSep_0	
400-150860-3	MW-104	Total/NA	Water	PrecSep_0	
400-150860-4	MW-106	Total/NA	Water	PrecSep_0	
400-150860-6	MW-105	Total/NA	Water	PrecSep_0	
400-150860-5	MW-107	Total/NA	Water	PrecSep_0	
400-150860-9	MW-110	Total/NA	Water	PrecSep_0	
400-150860-8	MW-101	Total/NA	Water	PrecSep_0	
400-150860-7	DUP-03	Total/NA	Water	PrecSep_0	
400-150860-10	EB-02	Total/NA	Water	PrecSep_0	
400-150860-11	FB-02	Total/NA	Water	PrecSep_0	
MB 150-379126/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 150-379126/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
580-167636-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-225	09 1. 5		09146	09148	1900	09144	pCi/L	10/24/18 1. :. 8	11/16/18 1. :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-225			1194	12913		19 3	1900	09183	pCi/L	103	58 - 1. 3		

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-225	09671			09 546		09188	1900	09206	pCi/L			096.	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	091156	U	09280	09280	1900	09481	pCi/L	10/24/18 14:00	11/1. /18 15:6.	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			7.922	10.902		1.922	1.000	0.608	pCi/L	107	65 - 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	0.9 16	U		0.95021		0.9 48	1.000	0.613	pCi/L			0.94.	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 225 + 228	0.94. .	U		0.9 . 24	U	0.9 88	6.900	0.96. 2	pCi/L			0.914	

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	0855		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
Pro/ectSRite: CCB Plant Crist

TestAmerica Job ID: 400-150720-j
RDG: kangfill 1

Laboratory: TestAmerica Pensacola

All accregitationsSertifications delg by tdis laboratory are listegh . ot all accregitationsSertifications are applicable to tdis reporth

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	Rtate ProNram	4	40120	05-60-13
A. A9	IROSEC 1L0j 2		kj 4L1	0j -j j -j 0
Arizona	Rtate ProNram	3	AZ0L10	01-1j -13
ArQansas DE8	Rtate ProNram	5	77-0573	03-01-13
California	Rtate ProNram	3	j 210	05-60-13
Floriga	. EkAP	4	E71010	05-60-13
GeorNia	Rtate ProNram	4	E71010 (Fk)	05-60-13
Illinois	. EkAP	2	j 00041	10-03-13
Iowa	Rtate ProNram	L	65L	07-01-j 0
Kansas	. EkAP	L	E-10j 26	10-61-17 U
KentucQy (WRT)	Rtate ProNram	4	26	05-60-13
KentucQy (MM)	Rtate ProNram	4	37060	1j -61-17
kouisiana	. EkAP	5	603L5	05-60-13
kouisiana (DM)	. EkAP	5	kA1700j 6	1j -61-17
v arylang	Rtate ProNram	6	j 66	03-60-13
v assacdusetts	Rtate ProNram	1	v -Fk034	05-60-13
v icdiNan	Rtate ProNram	2	331j	05-60-13
. ew Jersey	. EkAP	j	Fk005	05-60-13
. ortd Carolina (MMSRM)	Rtate ProNram	4	614	1j -61-17
OQladoma	Rtate ProNram	5	3710	07-61-13
Pennsyl*ania	. EkAP	6	57-0045L	01-61-13
Bdoge Islang	Rtate ProNram	1	kAO0060L	1j -60-17
Routd Carolina	Rtate ProNram	4	350j 5	05-60-13
Tennessee	Rtate ProNram	4	T. 0j 30L	05-60-13
Texas	. EkAP	5	T104L04j 75-17-12	03-60-13
WR Fisd & Milglife	Fegeral		kE027447-0	0L-61-13
WRDA	Fegeral		P660-17-00147	02-1L-j 1
VirNinia	. EkAP	6	450155	05-14-13
MasdinNton	Rtate ProNram	10	C312	02-12-13
Mest VirNinia DEP	Rtate ProNram	6	165	05-60-13

Laboratory: TestAmerica St. Louis

All accregitationsSertifications delg by tdis laboratory are listegh . ot all accregitationsSertifications are applicable to tdis reporth

Authority	Program	EPA Region	Identification Number	Expiration Date
AlasQa	Rtate ProNram	10	v O00024	05-60-13
A. A9	DoD EkAP		kj 602	04-05-13
Arizona	Rtate ProNram	3	AZ0716	1j -07-17 U
California	Rtate ProNram	3	j 775	05-60-13
Connecticut	Rtate ProNram	1	PH-0j 41	06-61-13
Floriga	. EkAP	4	E7L573	05-60-13
Illinois	. EkAP	2	j 000j 6	11-60-17 U
Iowa	Rtate ProNram	L	6L6	1j -01-17 U
Kansas	. EkAP	L	E-10j 65	10-61-17 U
KentucQy (DM)	Rtate ProNram	4	301j 2	1j -61-17
kouisiana	. EkAP	5	04070	05-60-13
kouisiana (DM)	. EkAP	5	kA17001L	1j -61-17 U
v arylang	Rtate ProNram	6	610	03-60-13
v icdiNan	Rtate ProNram	2	3002	05-60-17 U
v issouri	Rtate ProNram	L	L70	05-60-13

UAccregitationSCertification renewal penginN - accregitationSertification consigereg *aligh

Accreditation/Certification Summary

Client: Gulf Power Company
Pro/ectSRite: CCB Plant Crist

TestAmerica Job ID: 400-150720-j
RDG: kangfill 1

Laboratory: TestAmerica St. Louis (Continued)

All accregitationsSertifications delg by tdis laboratory are listegh . ot all accregitationsSertifications are applicable to tdis reporth

Authority	Program	EPA Region	Identification Number	Expiration Date
. e*aga	Rtate ProNram	3	v O00024j 017-1	0L-61-13
. ew Jersey	. EkAP	j	v O00j	05-60-13
. ew YorQ	. EkAP	j	11515	06-61-13
. ortd DaQota	Rtate ProNram	7	Bj 0L	05-60-13
. BC	. BC		j 4-j 471L-01	1j -61-j j
OQadoma	Rtate ProNram	5	333L	07-61-13
Pennsyl*ania	. EkAP	6	57-00240	0j -j 7-13
Routd Carolina	Rtate ProNram	4	7200j 001	05-60-13
Texas	. EkAP	5	T104L04136-17-1j	0L-61-13
WR Fisd & Milglife	Fegeral		027447	0L-61-13
WRDA	Fegeral		P660-1L-00j 7	0j -0j -j 0
Wtad	. EkAP	7	v O00024j 017-10	0L-61-13
VirNinia	. EkAP	6	450j 60	05-14-13
MasdinNton	Rtate ProNram	10	C23j	07-60-13
Mest VirNinia DEP	Rtate ProNram	6	671	07-61-13

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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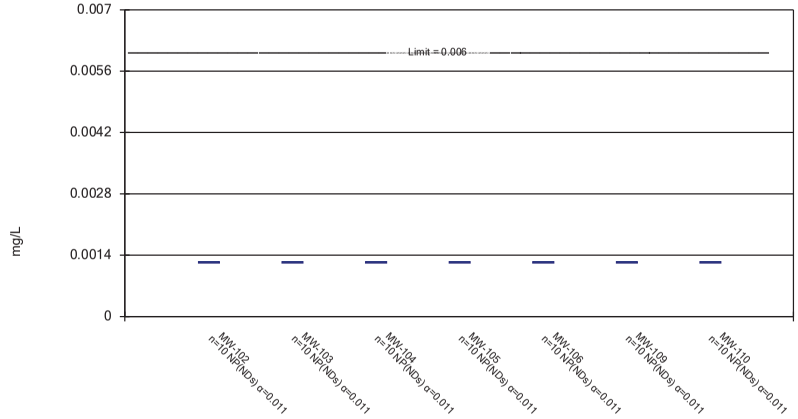
Non-Parametric Confidence Interval

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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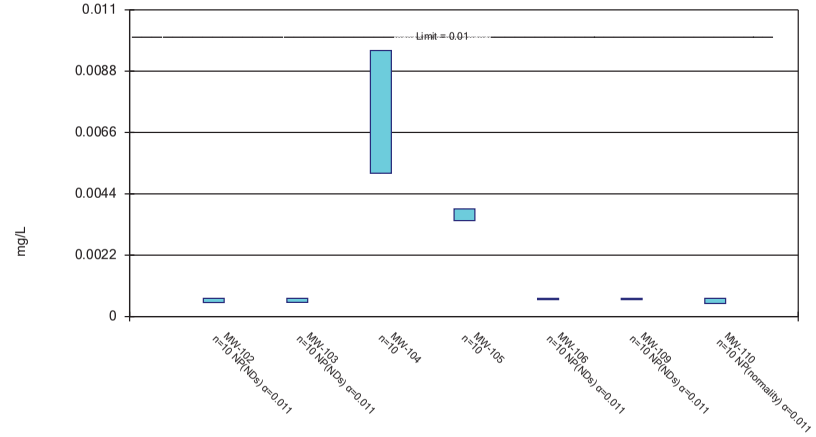
Parametric and Non-Parametric (NP) Confidence Interval

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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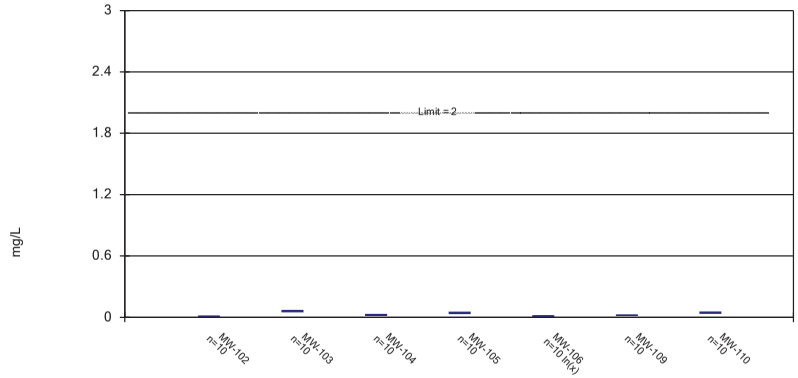
Parametric Confidence Interval

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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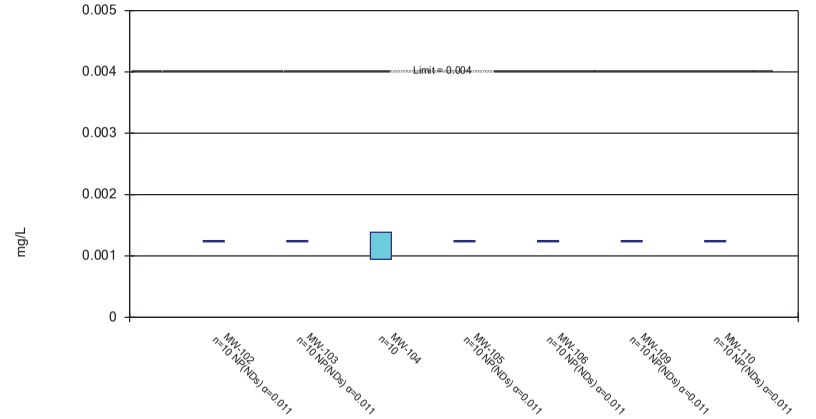
Parametric and Non-Parametric (NP) Confidence Interval

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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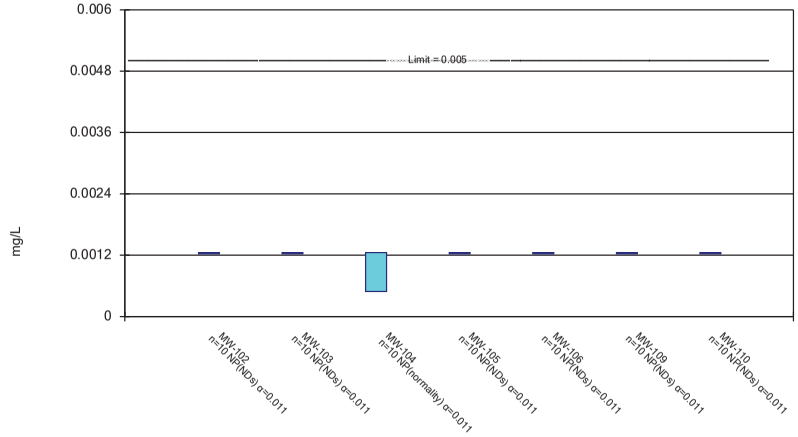
Non-Parametric Confidence Interval

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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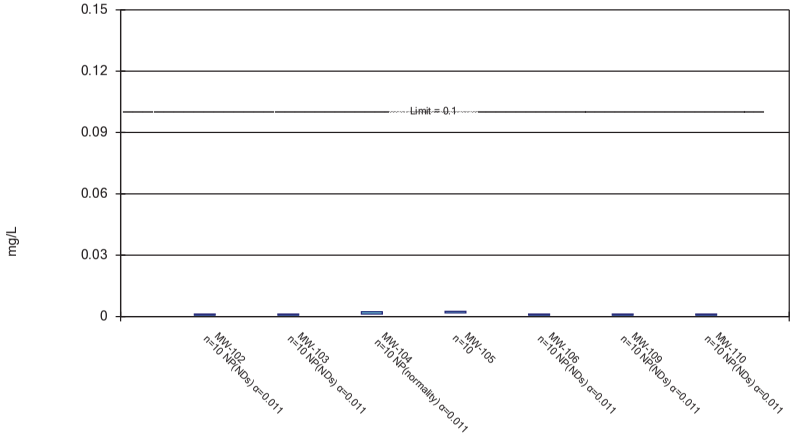
Parametric and Non-Parametric (NP) Confidence Interval

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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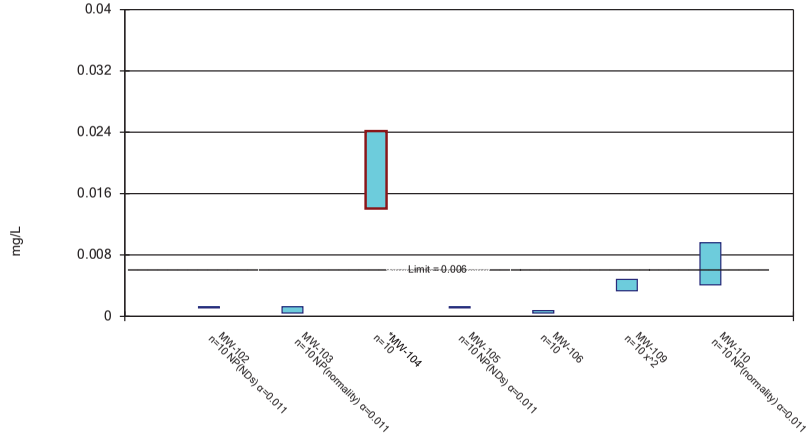
Parametric and Non-Parametric (NP) Confidence Interval

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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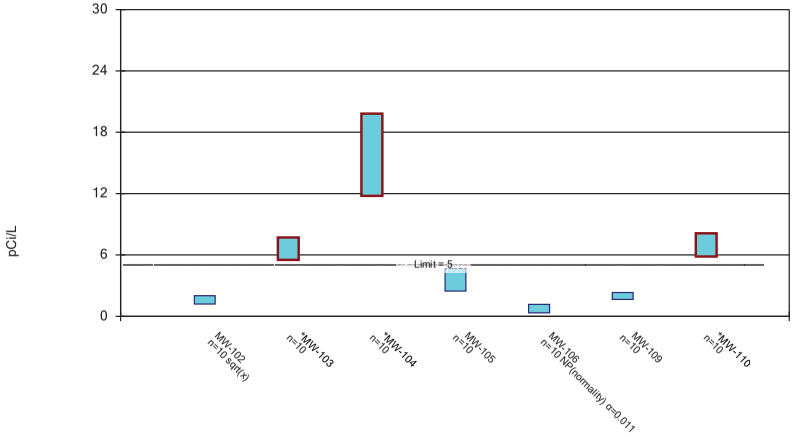
Parametric and Non-Parametric (NP) Confidence Interval

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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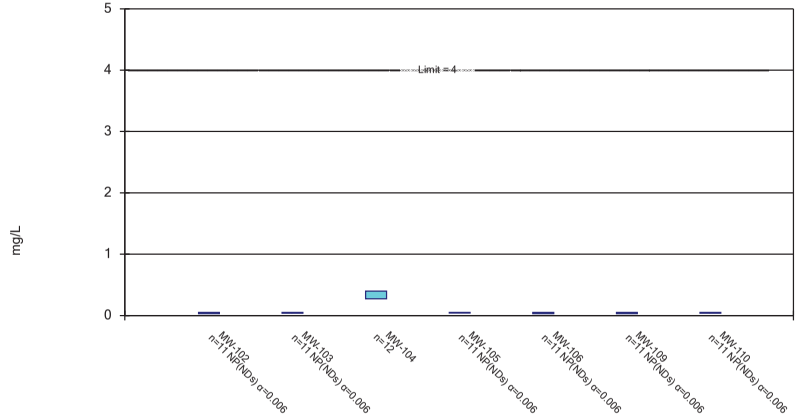
Parametric and Non-Parametric (NP) Confidence Interval

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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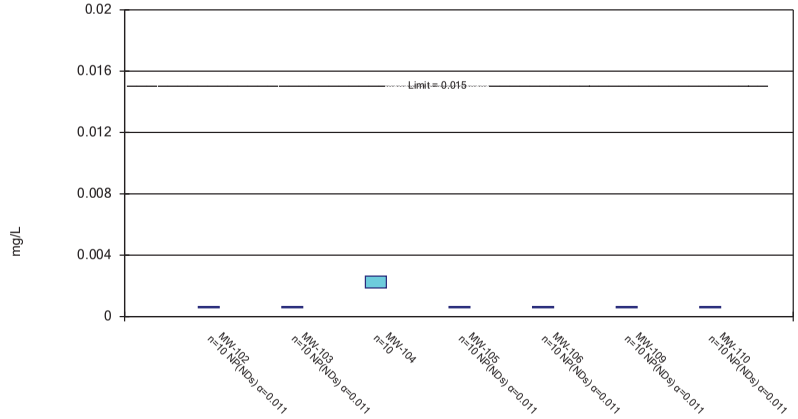
Parametric and Non-Parametric (NP) Confidence Interval

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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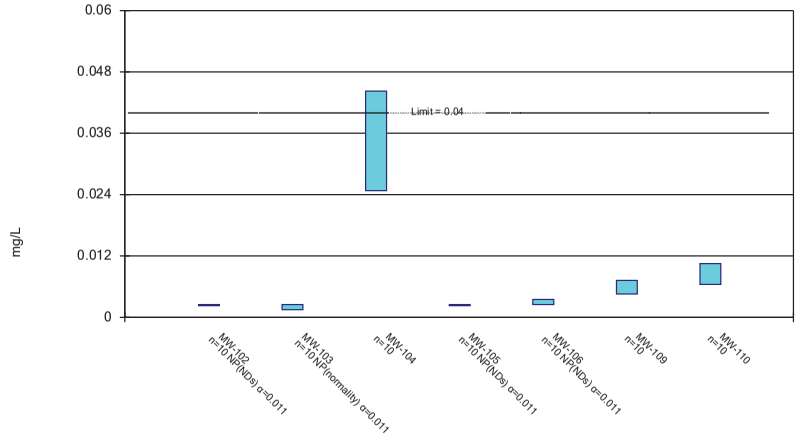
Parametric and Non-Parametric (NP) Confidence Interval

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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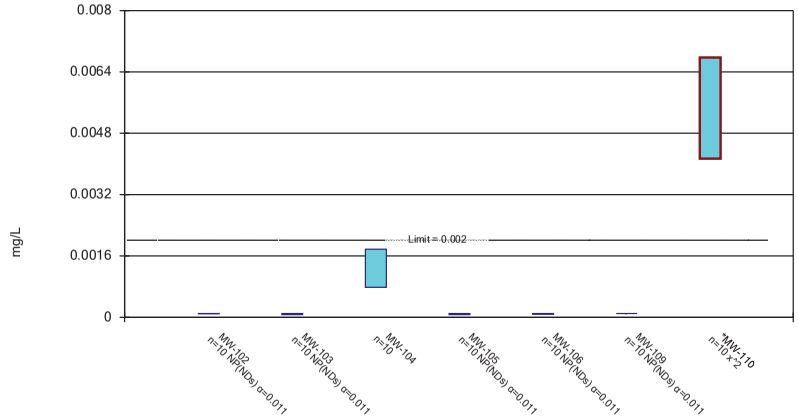
Parametric and Non-Parametric (NP) Confidence Interval

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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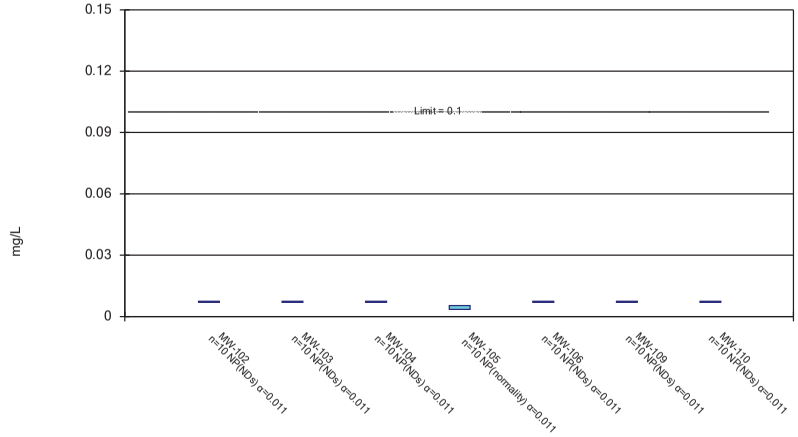
Non-Parametric Confidence Interval

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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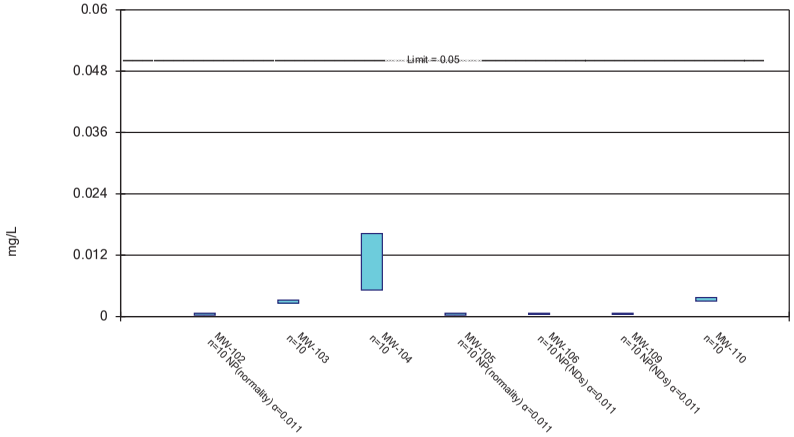
Parametric and Non-Parametric (NP) Confidence Interval

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

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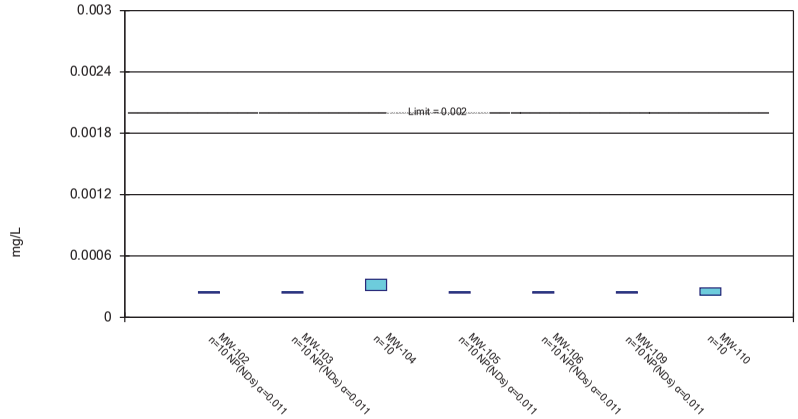
Parametric and Non-Parametric (NP) Confidence Interval

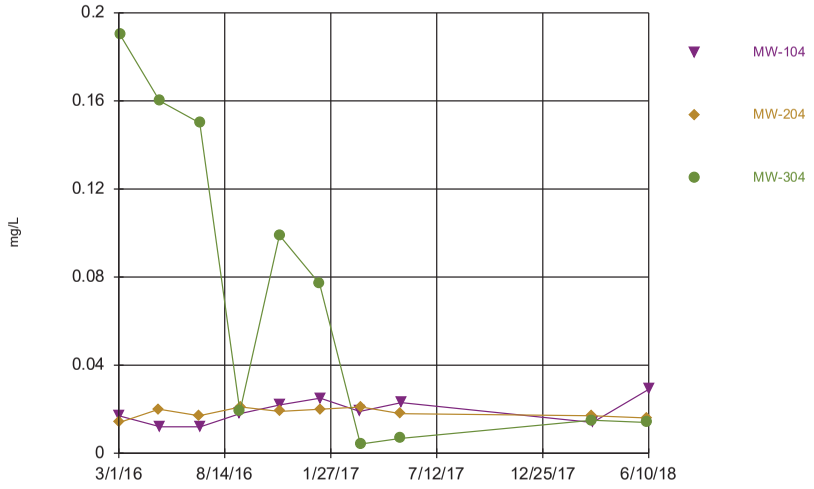
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium 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

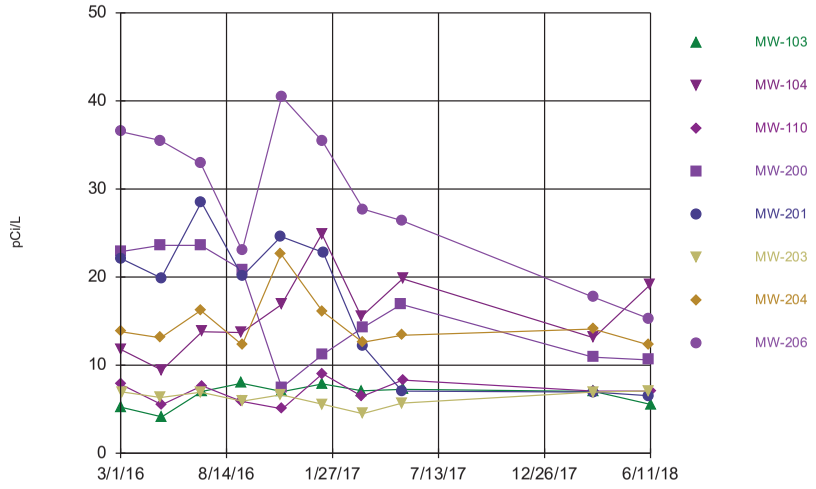
Cobalt



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

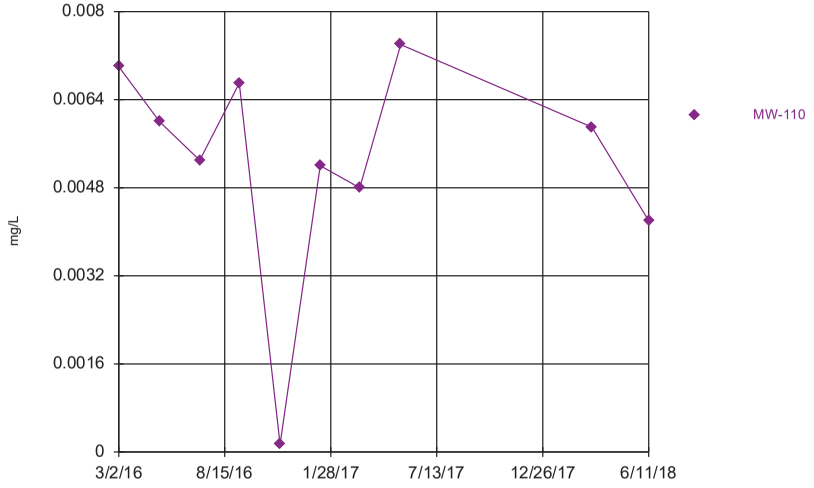
Combined Radium 226 + 228



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

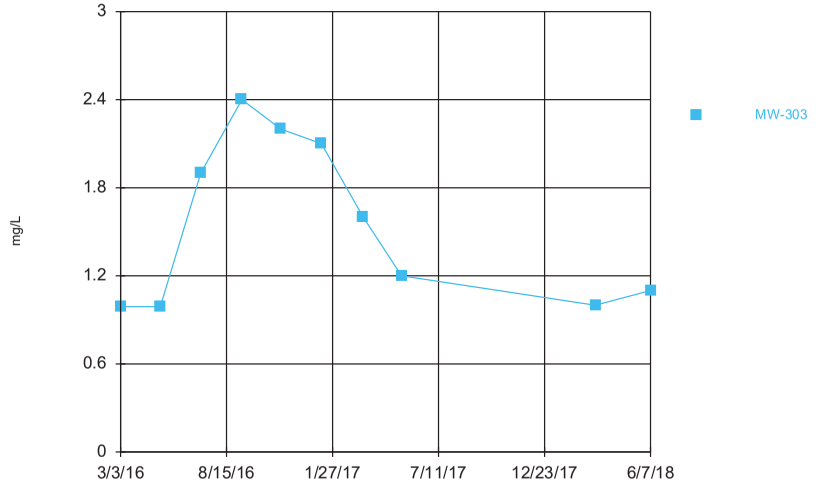
Mercury



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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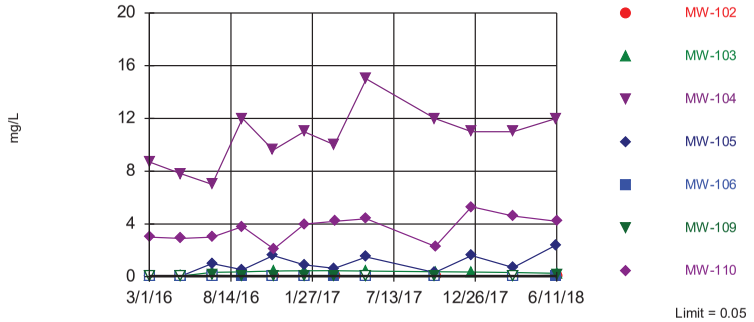
Hollow symbols indicate censored values.

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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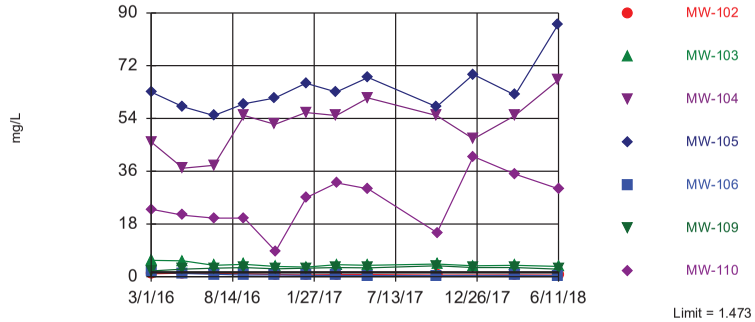
Exceeds Limit: MW-103, MW-104, MW-105, MW-109, MW-110

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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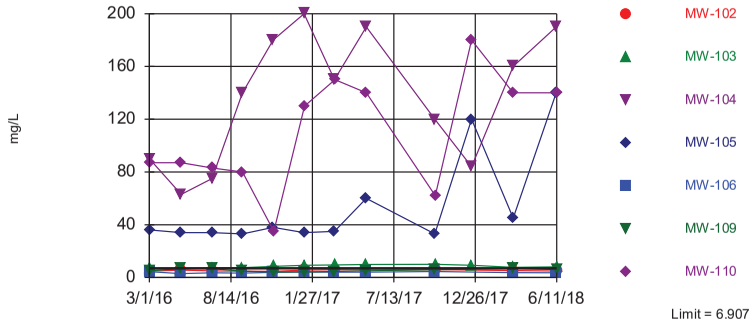
Exceeds Limit: MW-103, MW-104, MW-105, MW-110

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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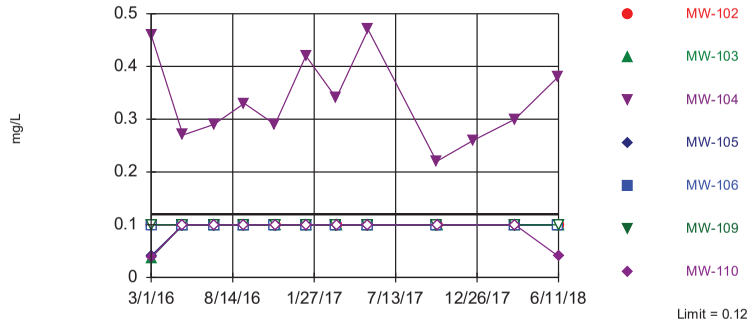
Hollow symbols indicate censored values.

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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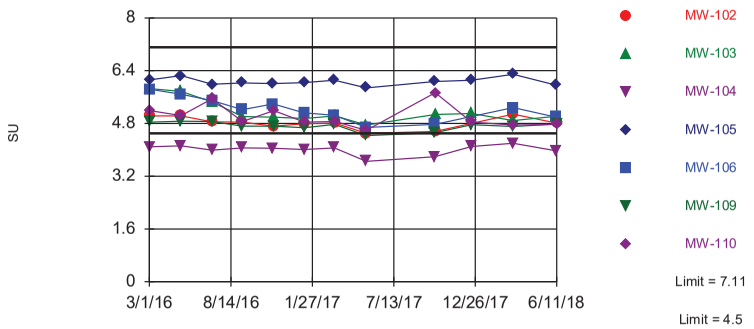
Exceeds Limits: MW-104

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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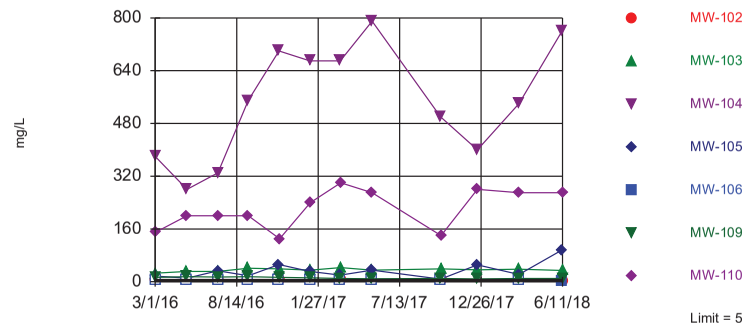
Hollow symbols indicate censored values.

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

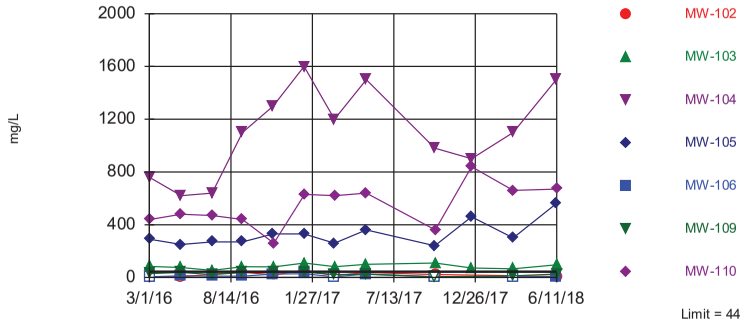
Plant Crist Client: Southern Company Data: Plant Crist CCR

Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
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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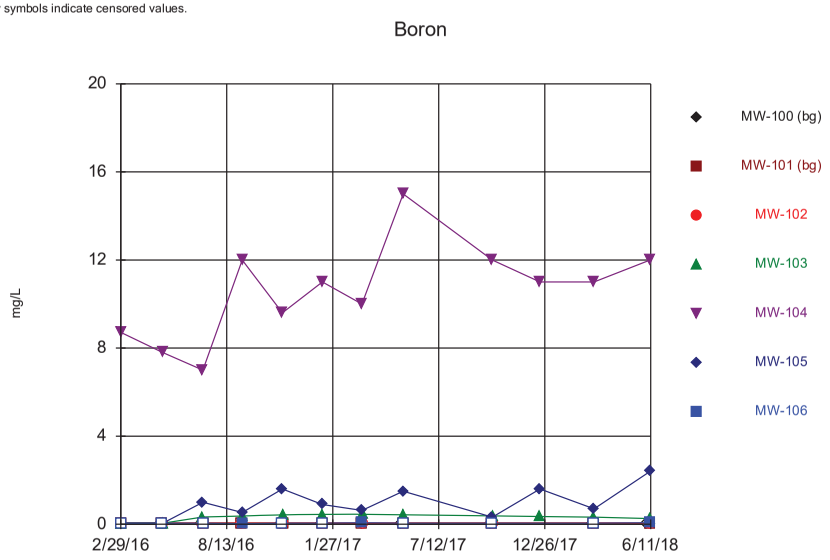

Time Series Analysis Run 10/14/2018 5:30 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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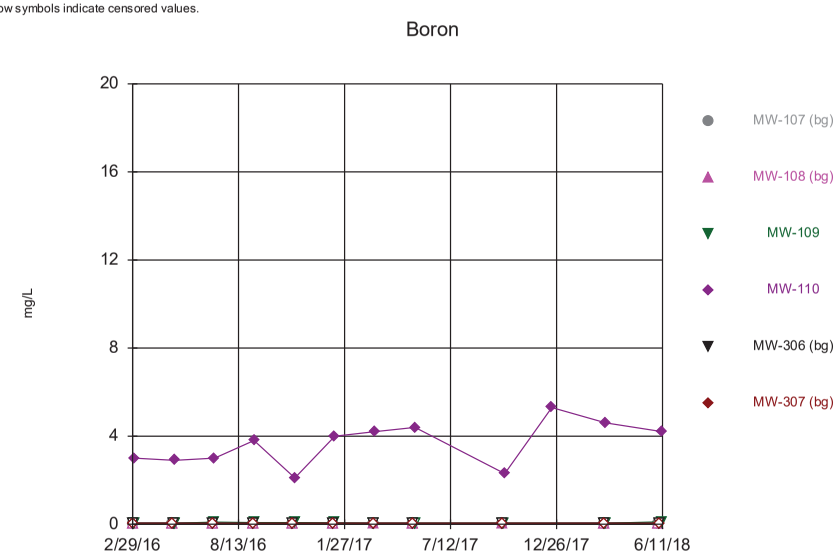

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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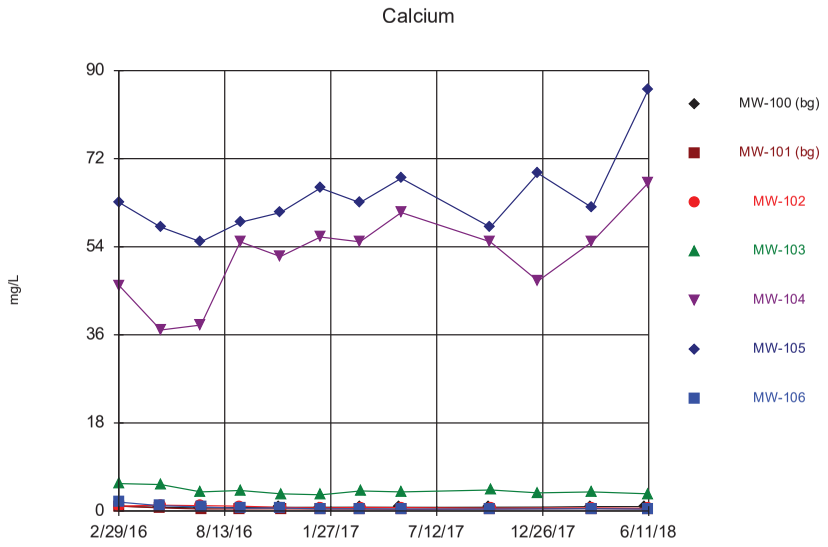

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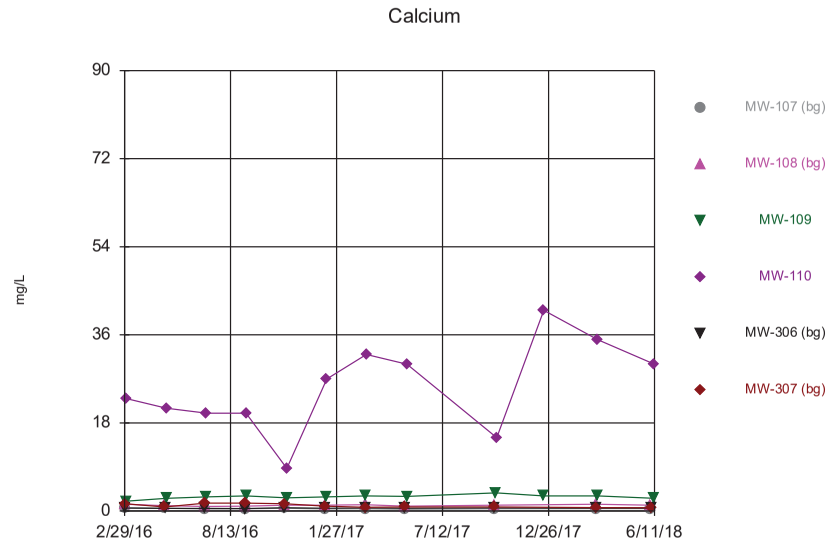

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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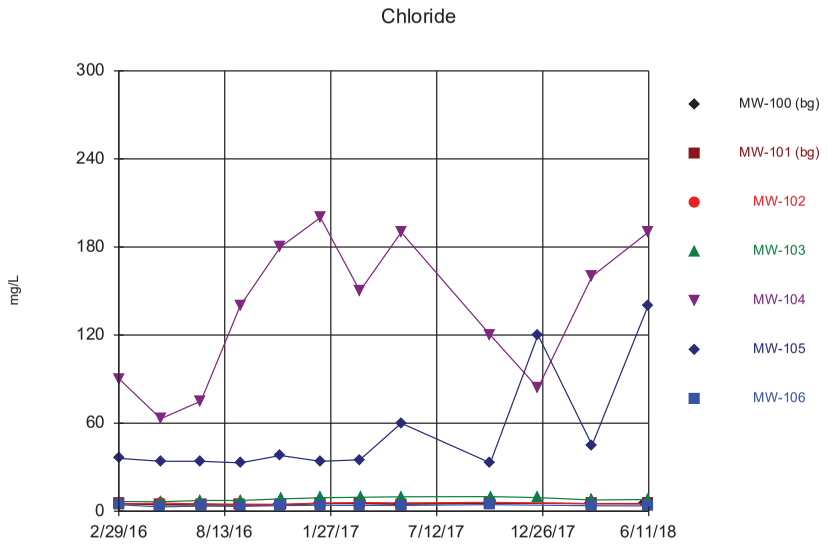

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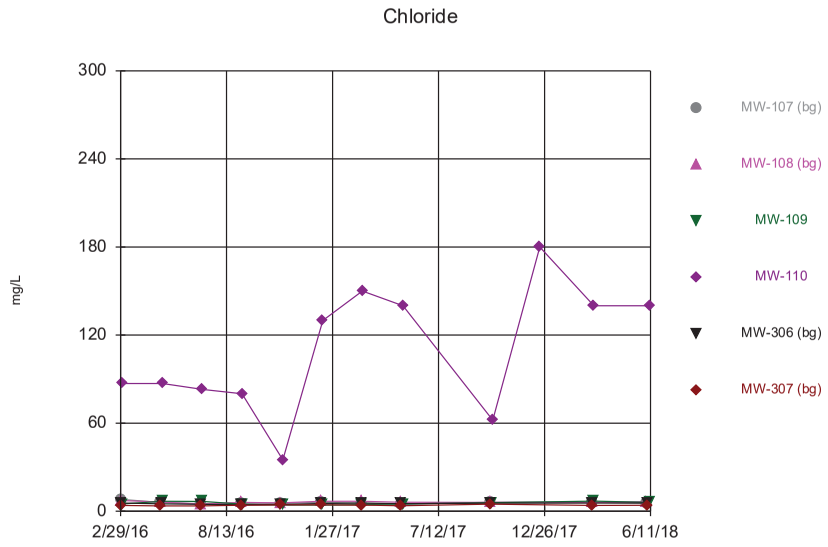

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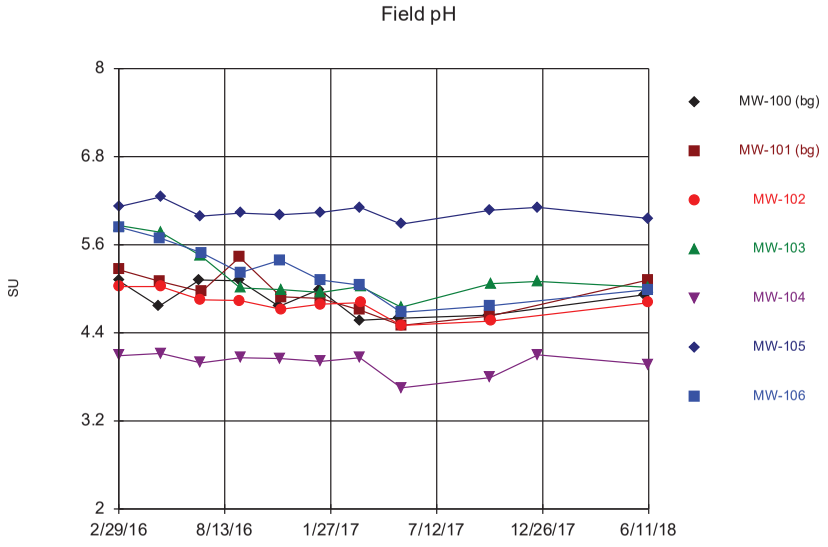

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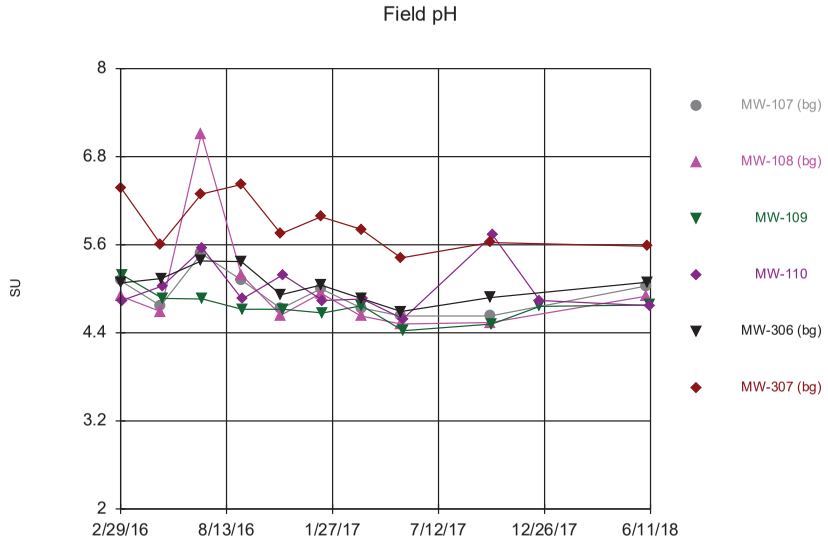

Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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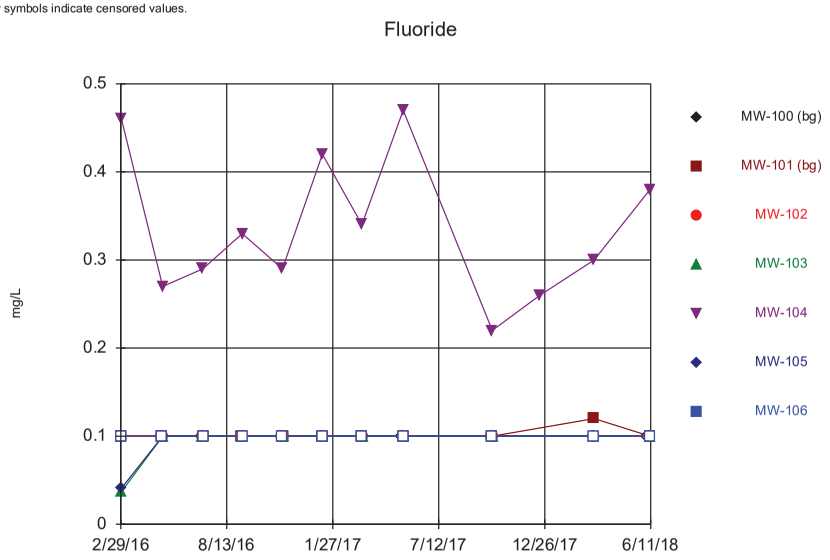

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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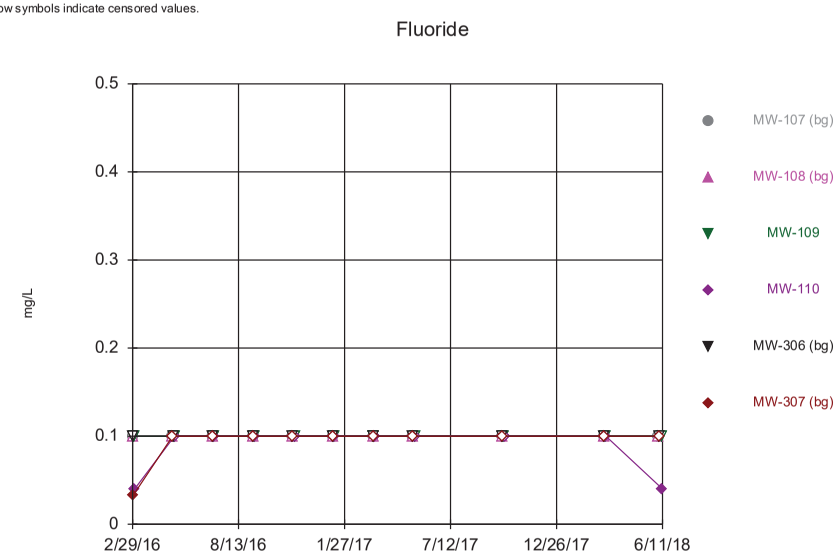

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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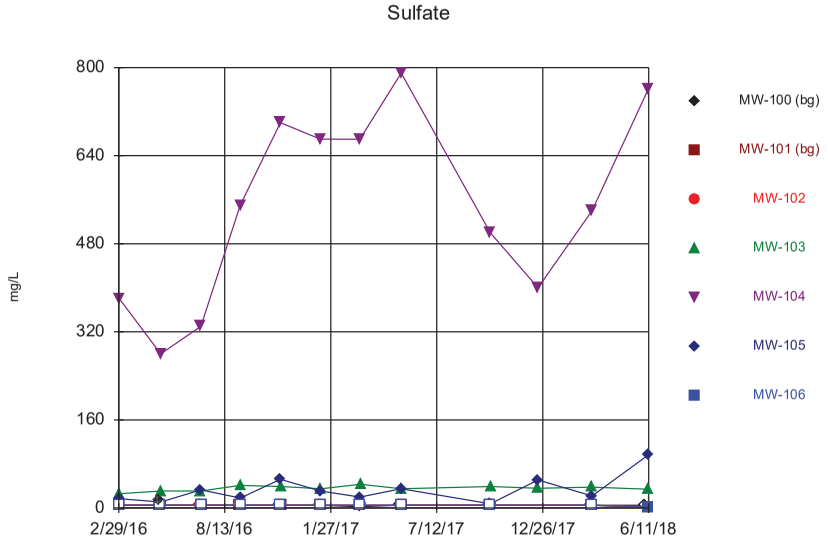

Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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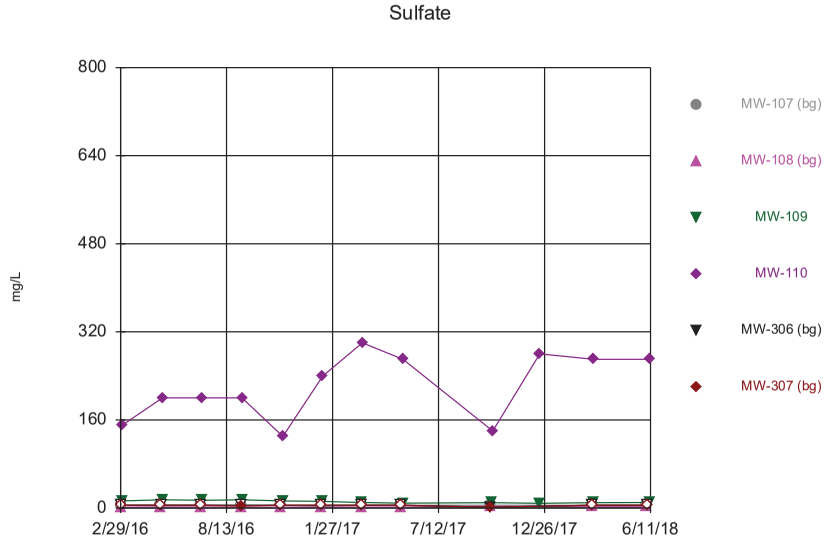

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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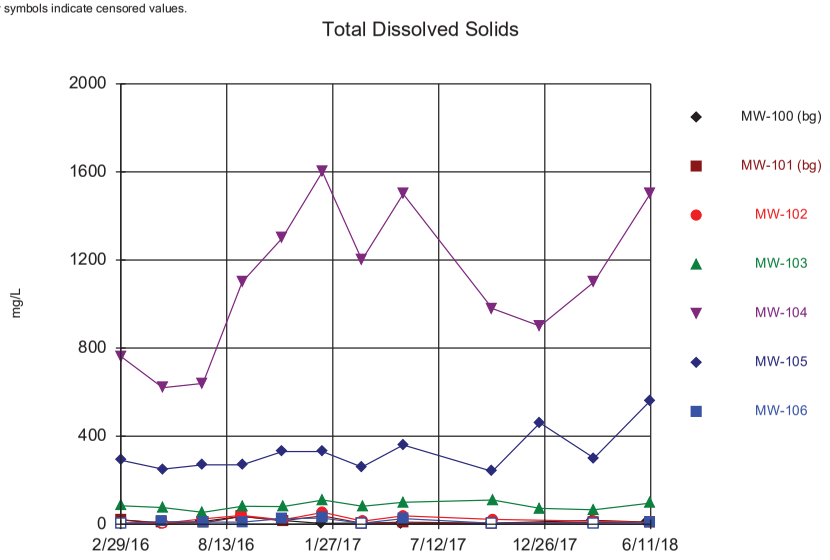

Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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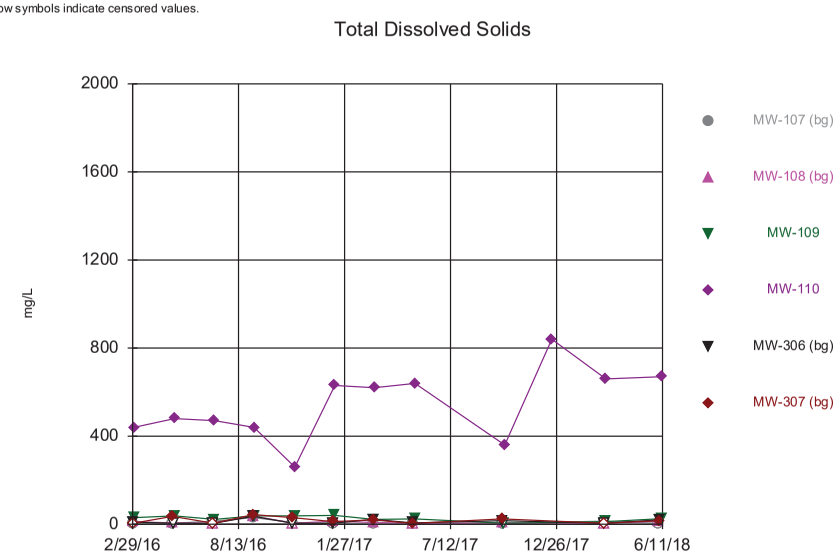

Time Series Analysis Run 10/14/2018 5:31 PM View: Time Series - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

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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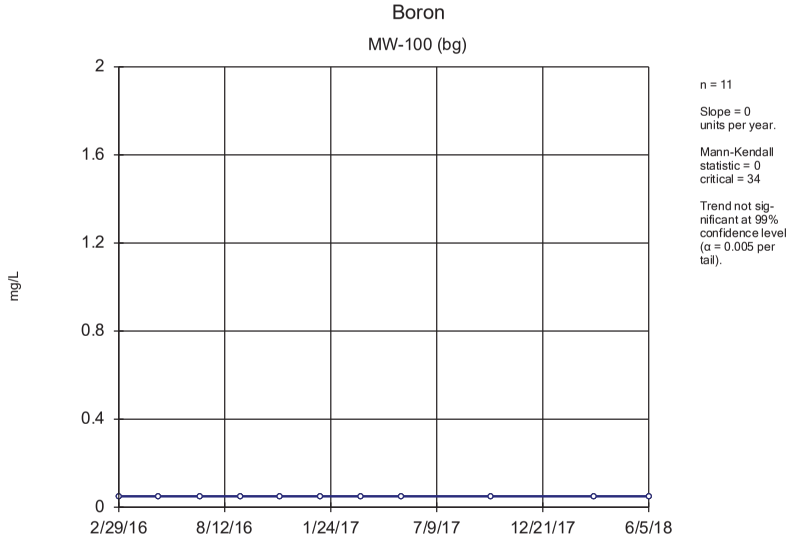
Hollow symbols indicate censored values.



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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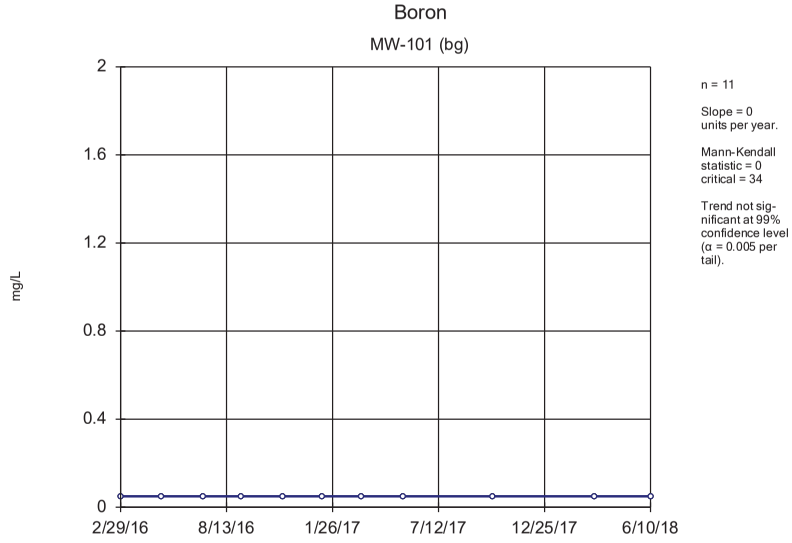

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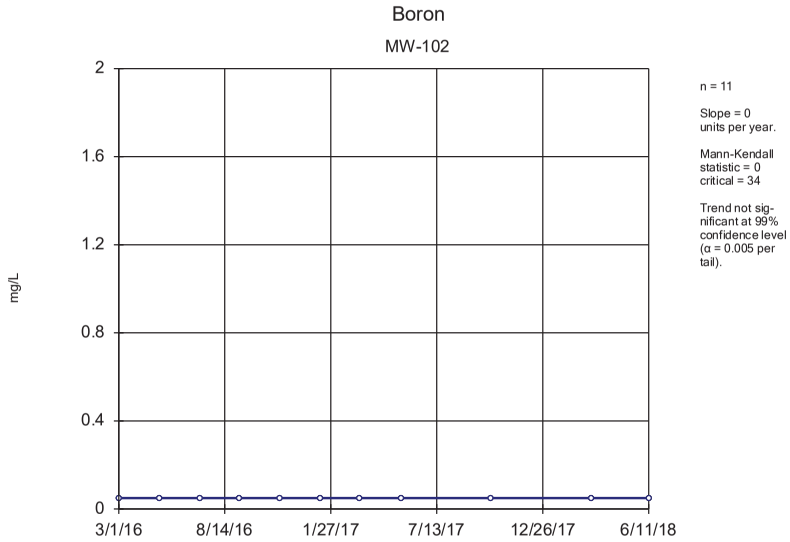

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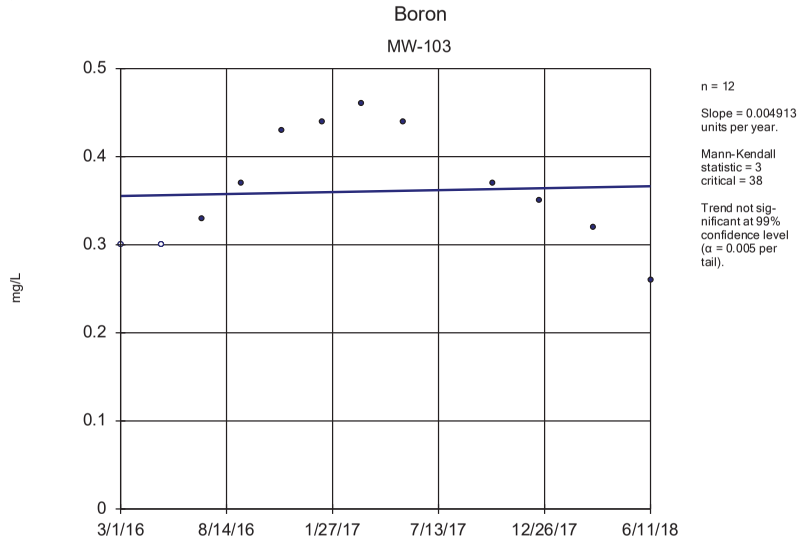

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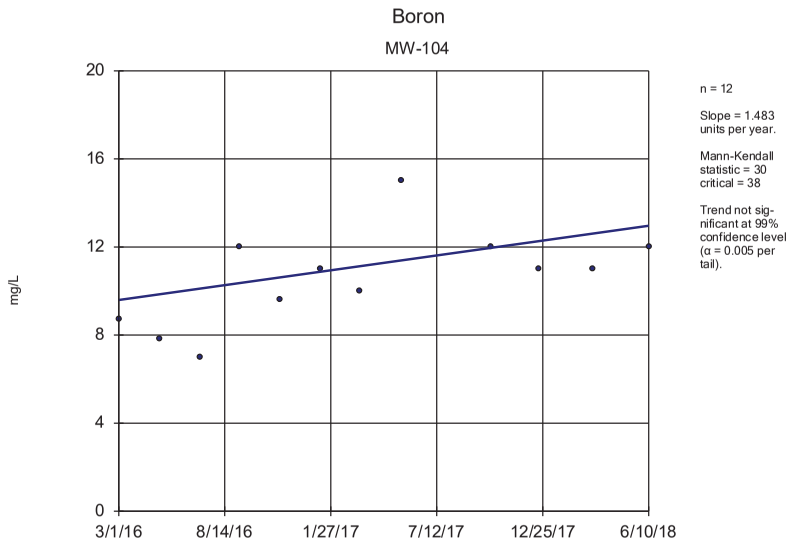

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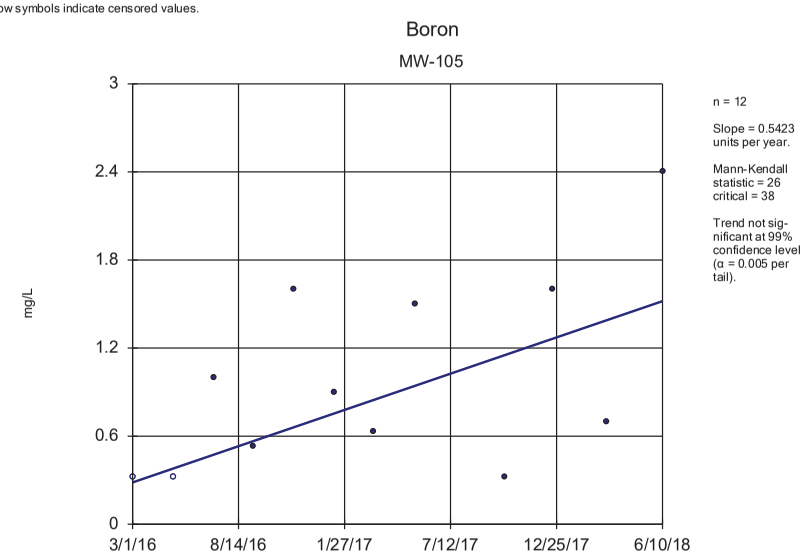

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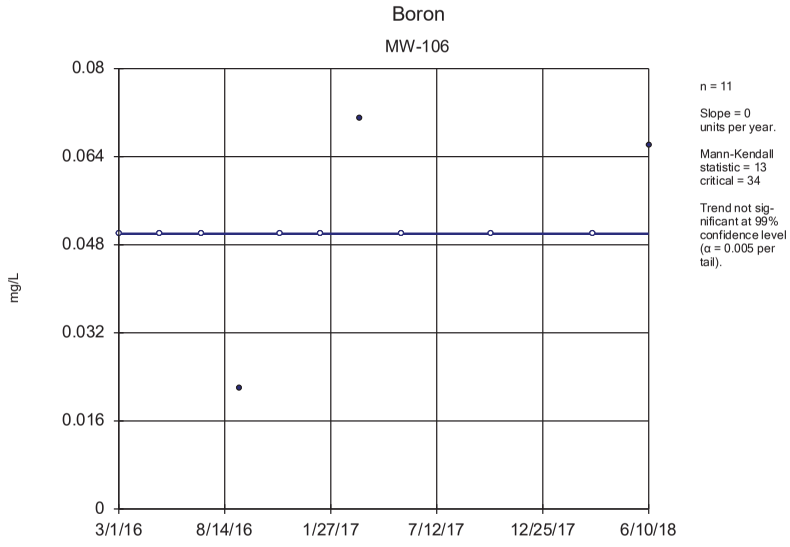

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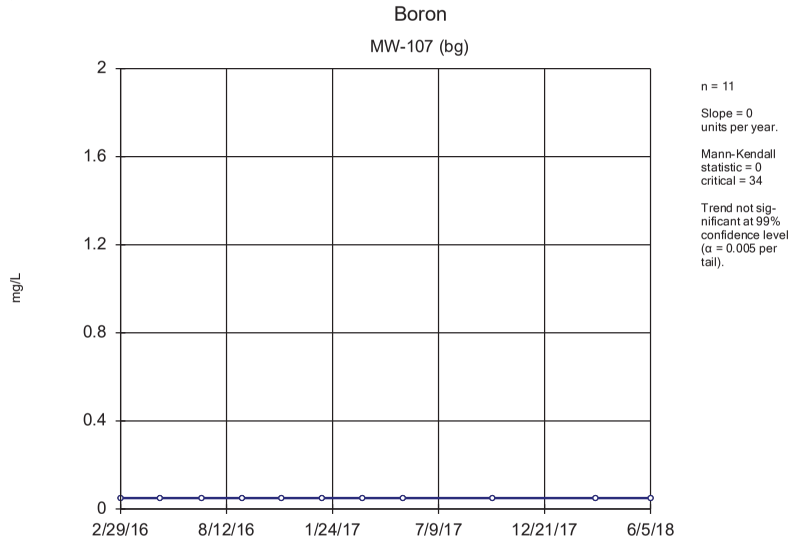

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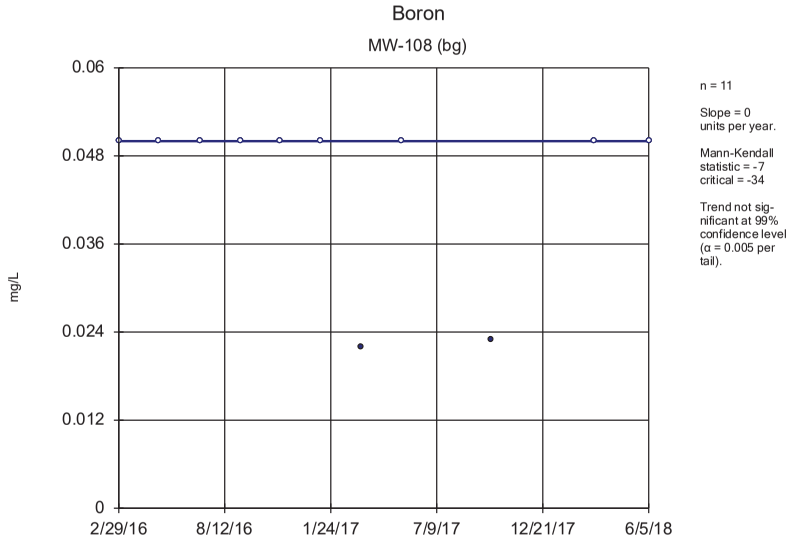

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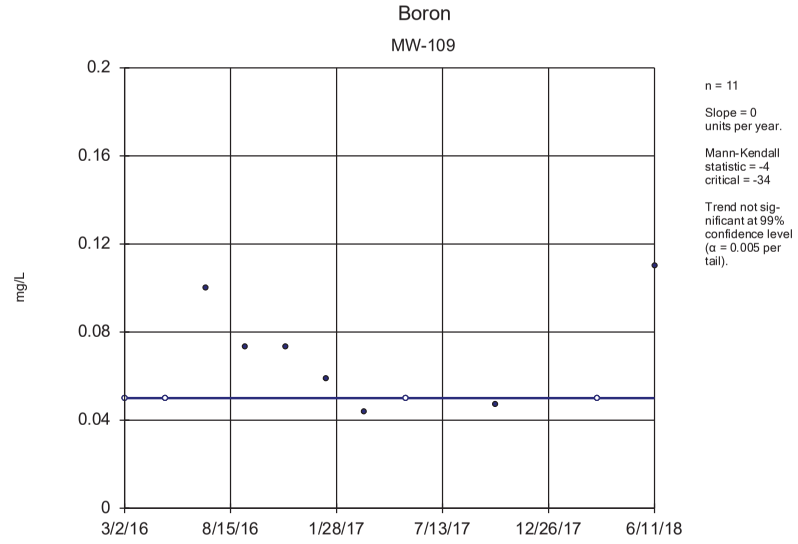

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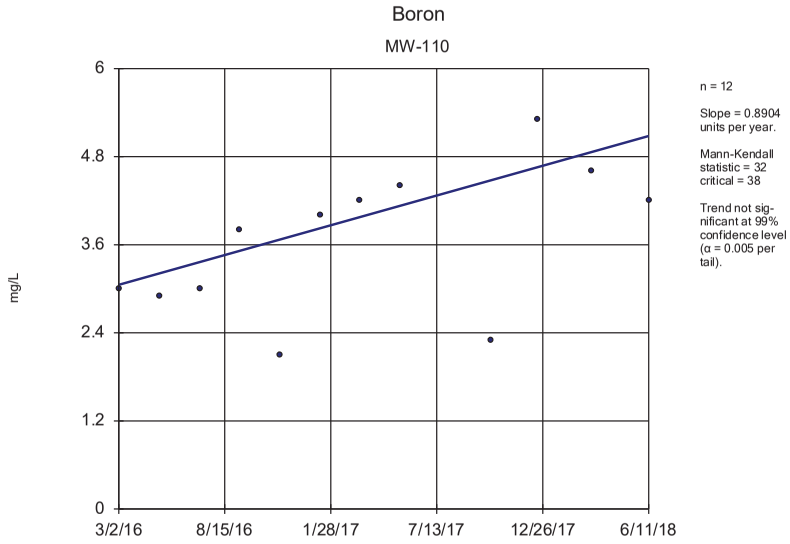

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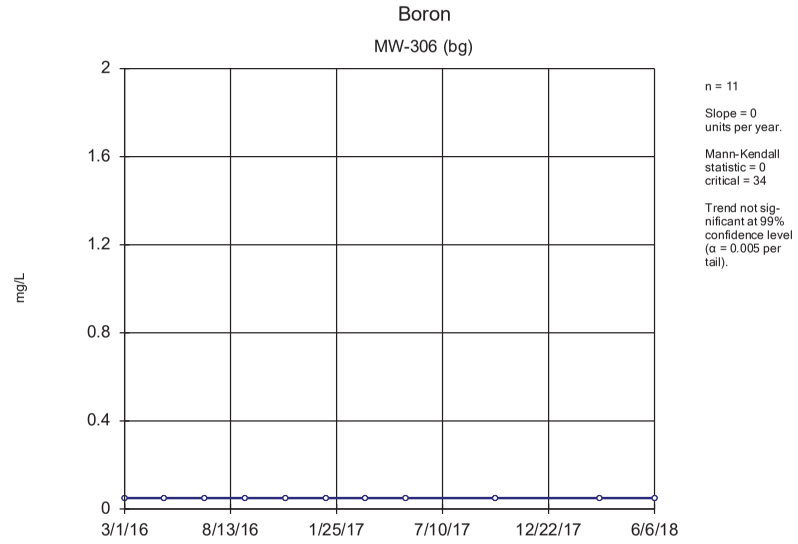

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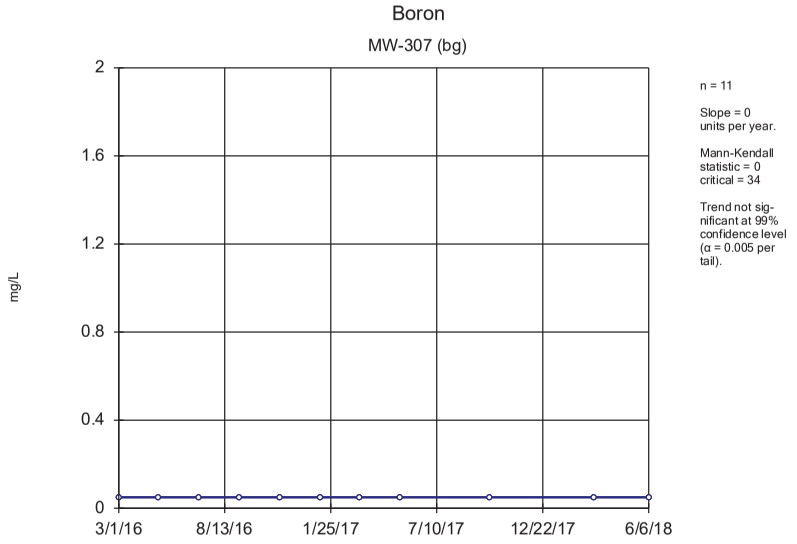

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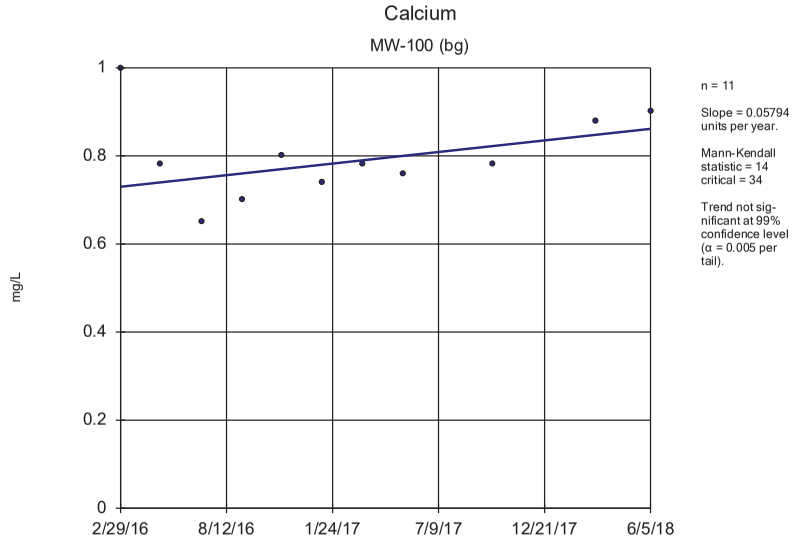

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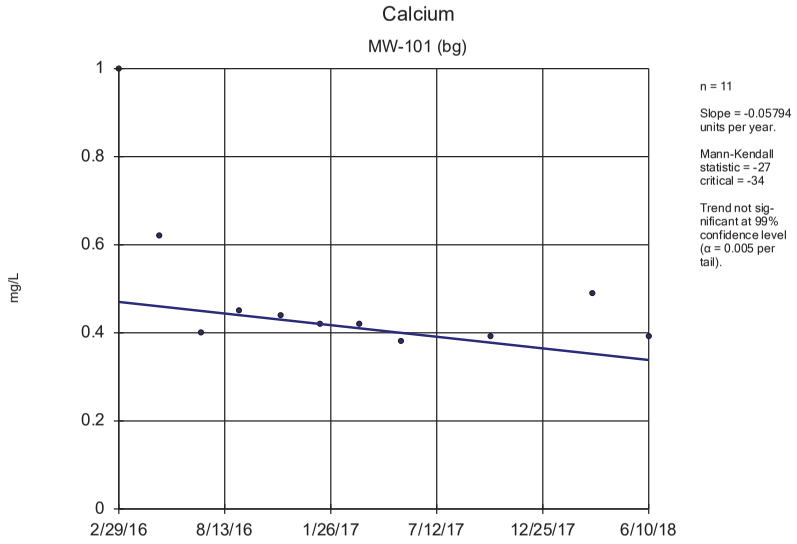

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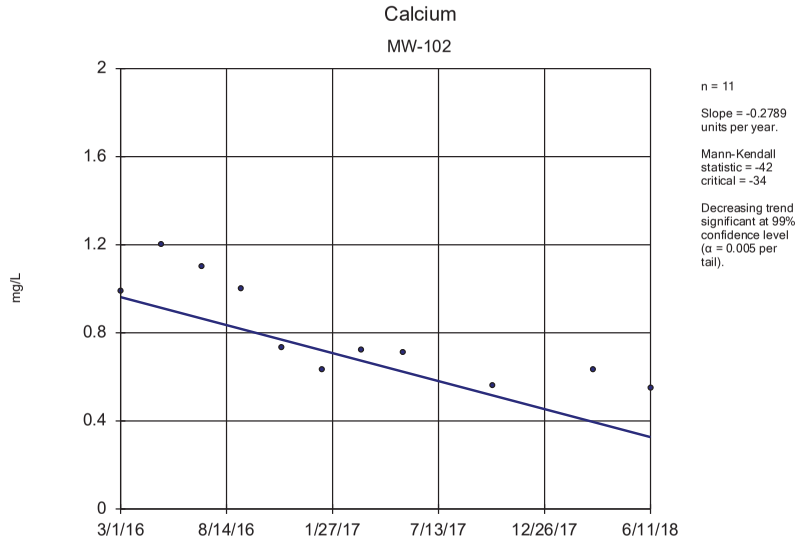

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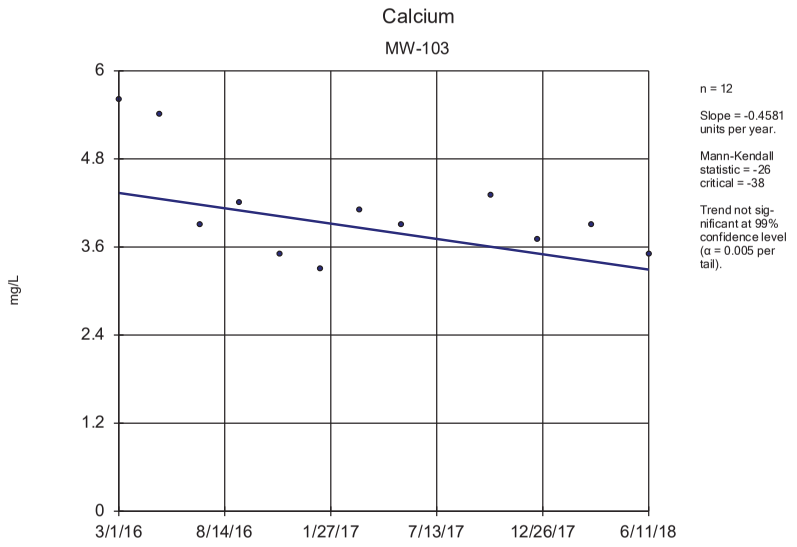

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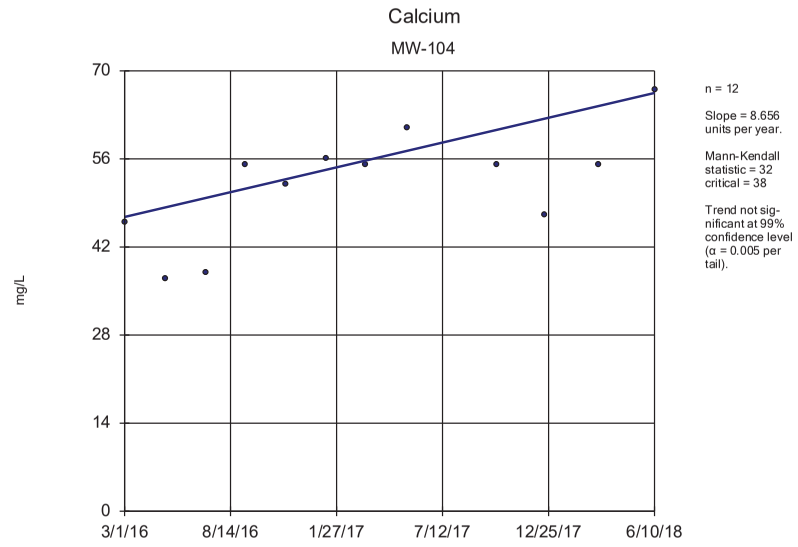

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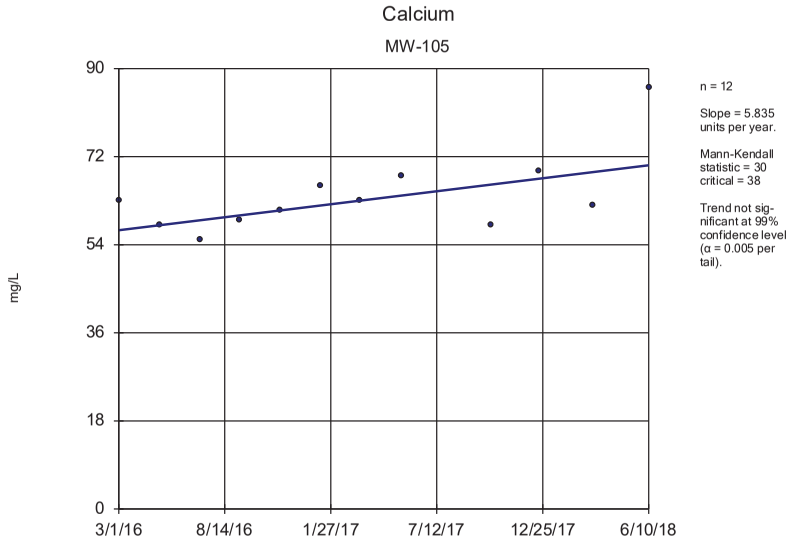

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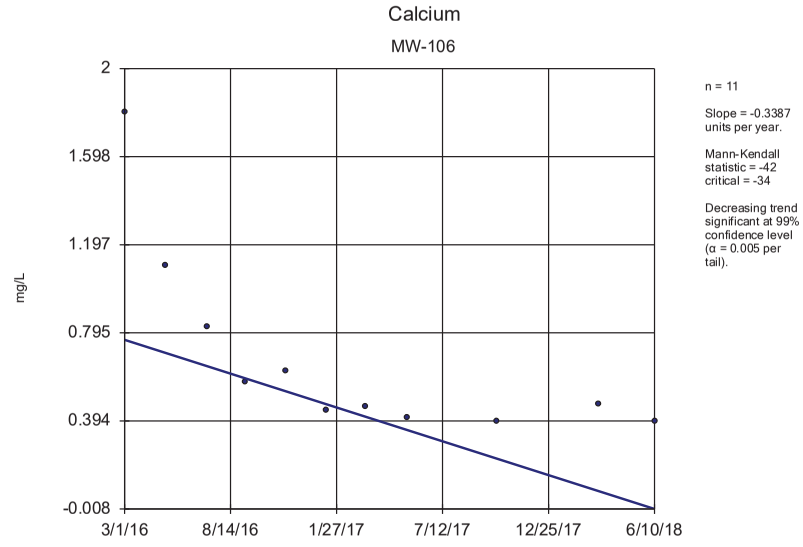

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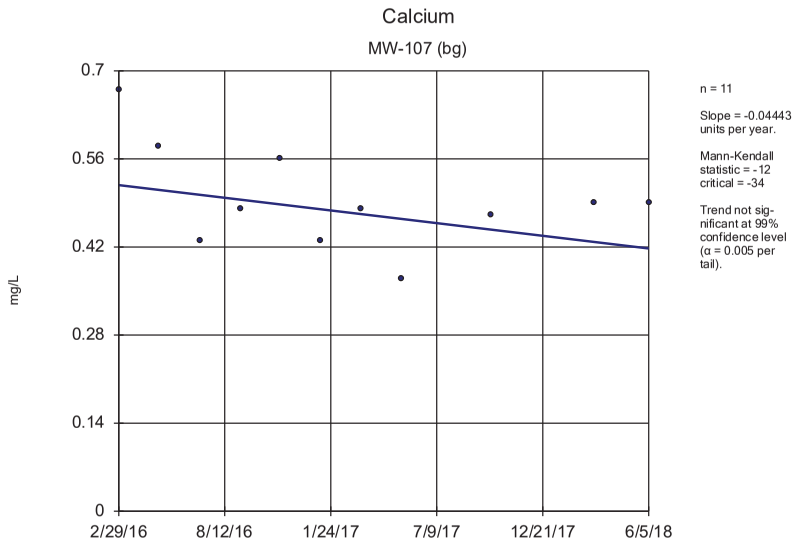

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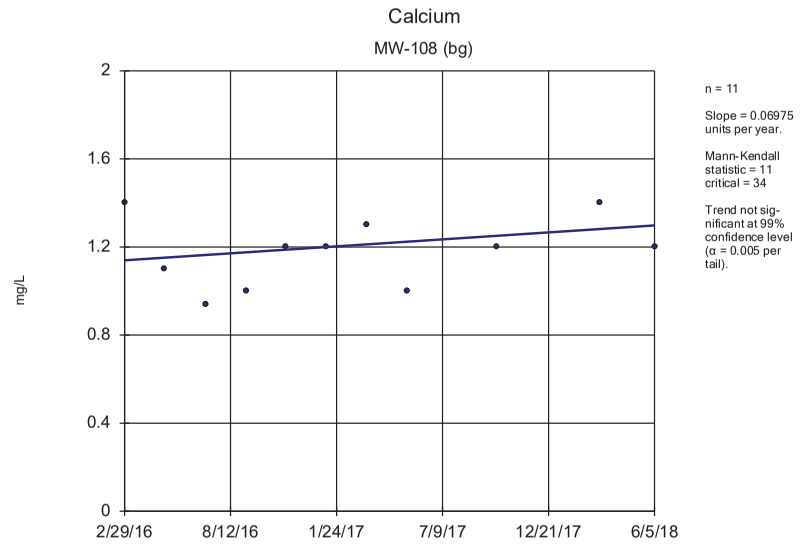

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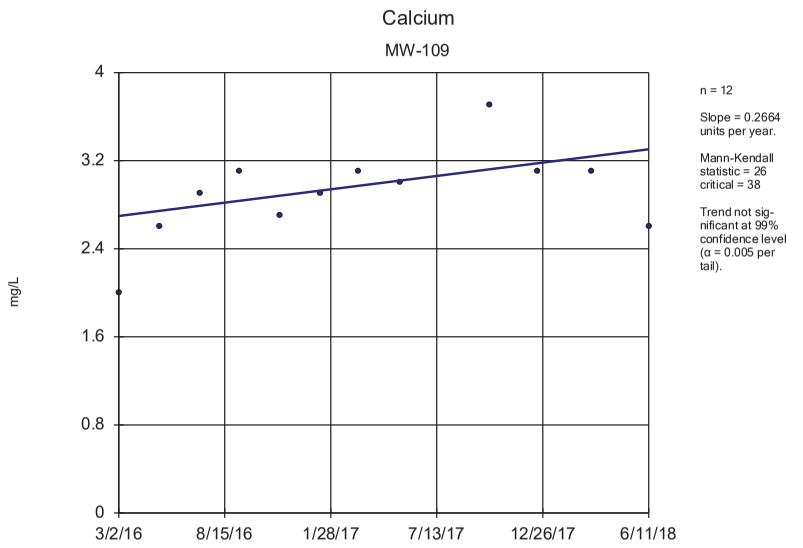

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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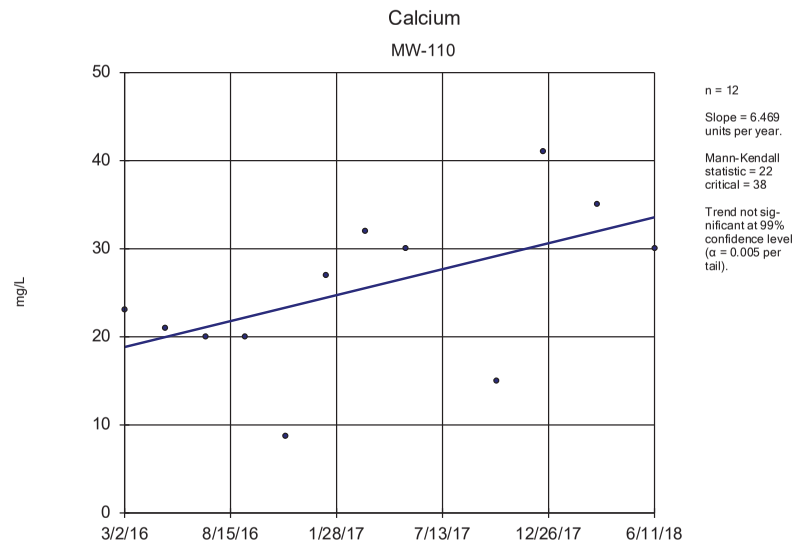

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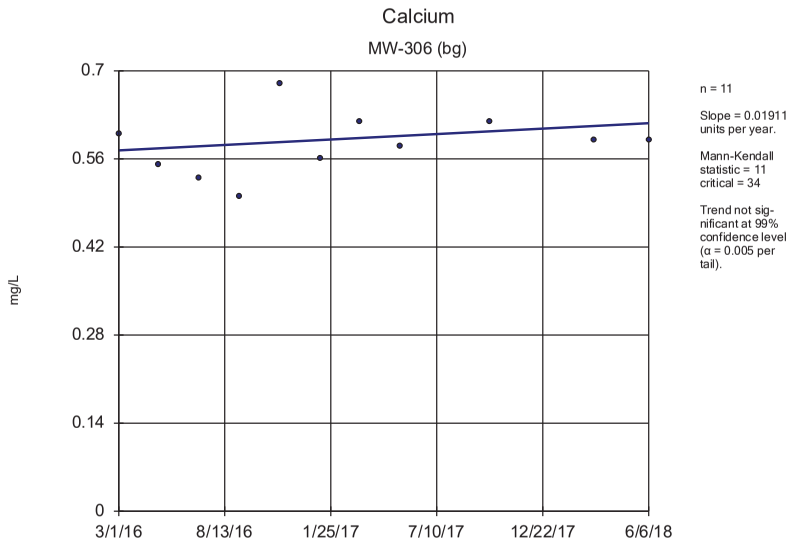

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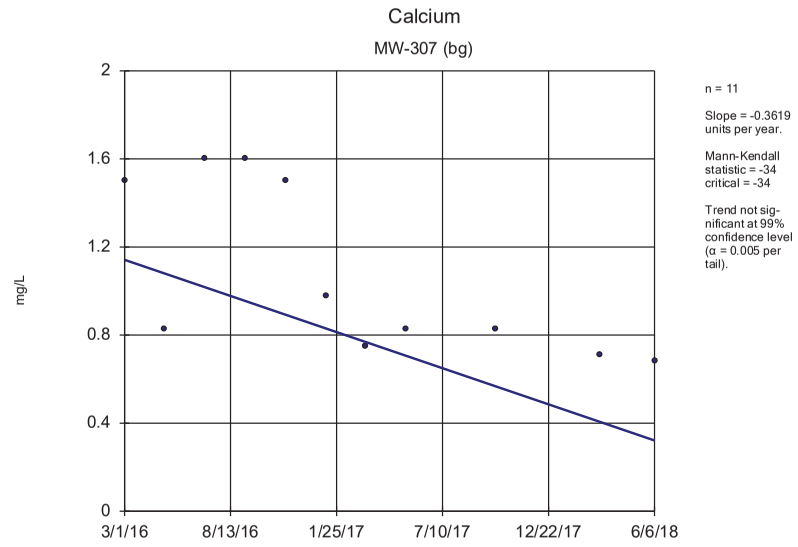

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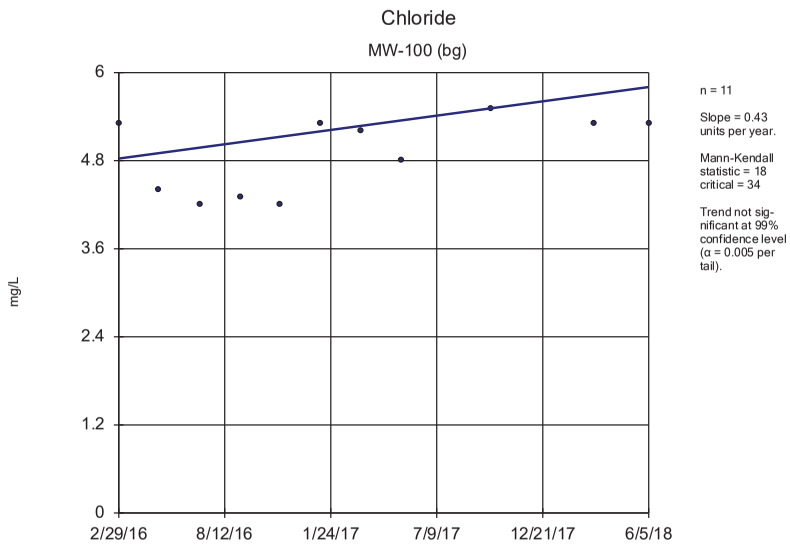

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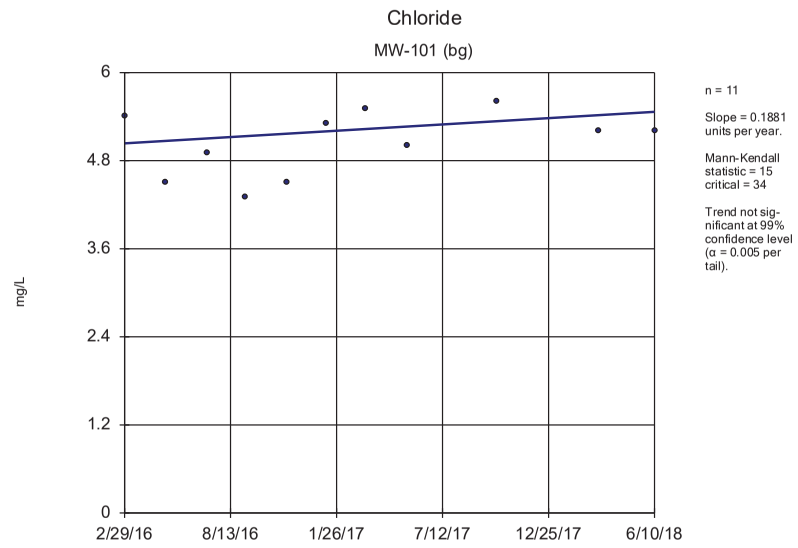

Sen's Slope Estimator Analysis Run 10/14/2018 5:23 PM View: Trends - 100 Series
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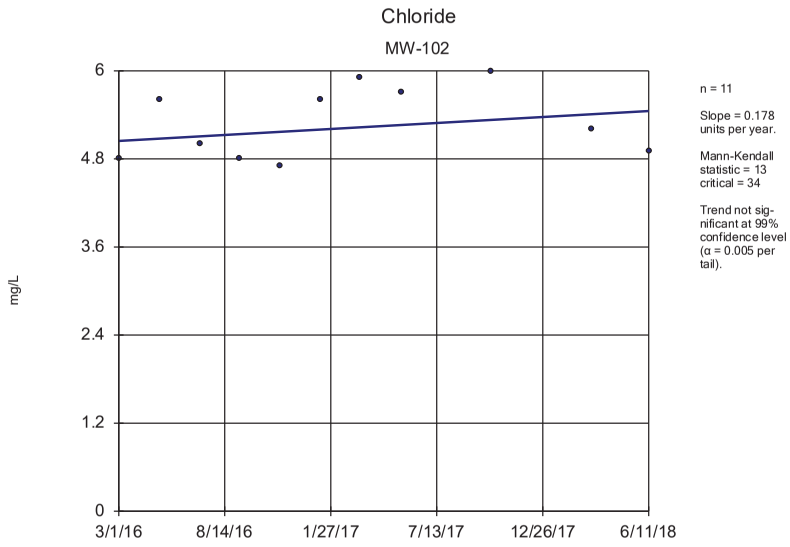

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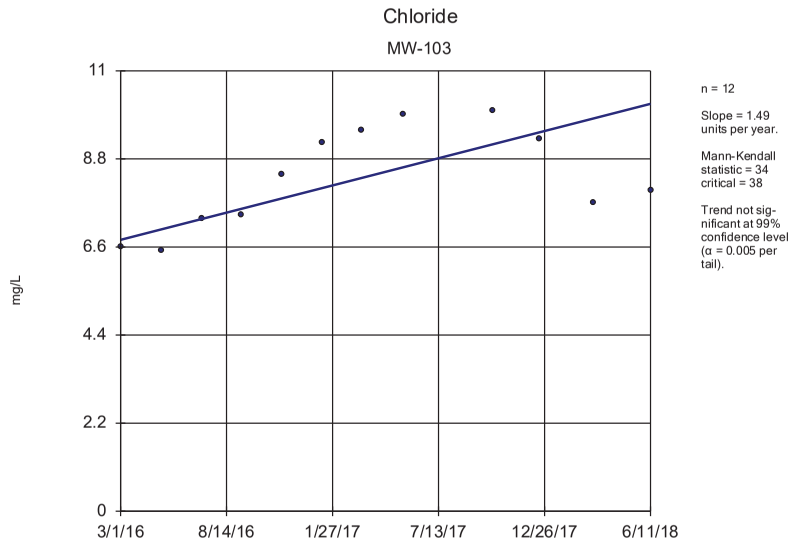

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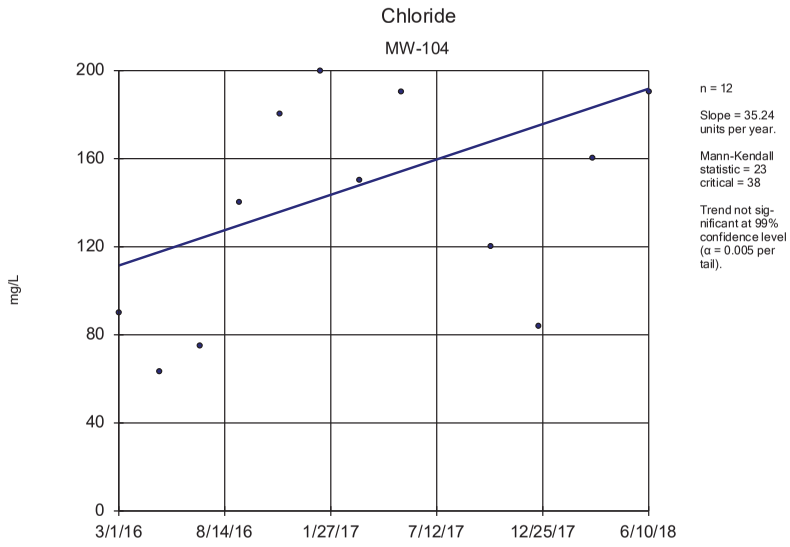

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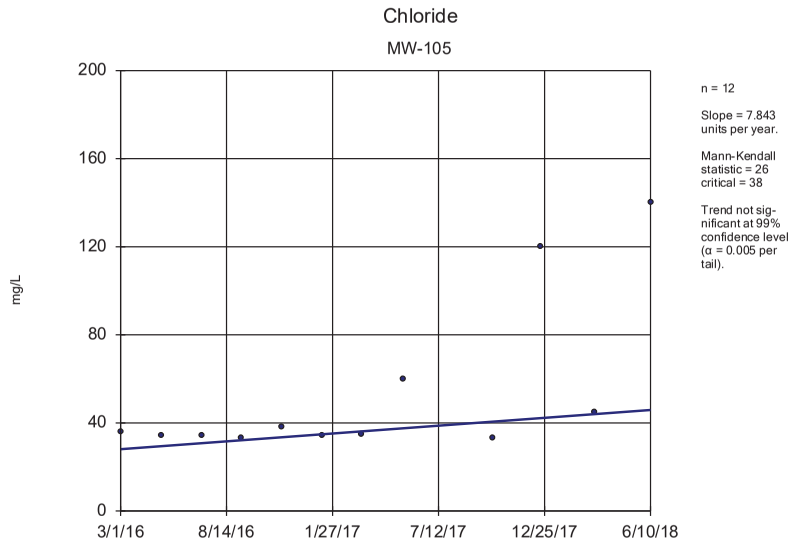

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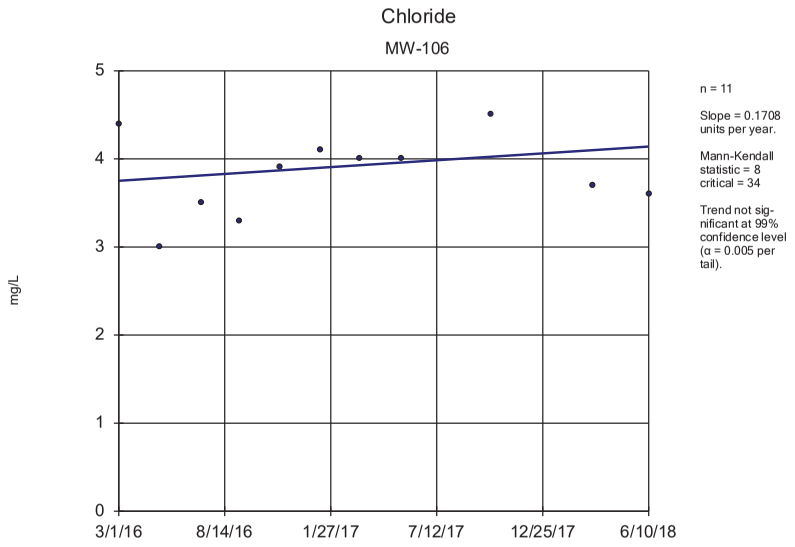

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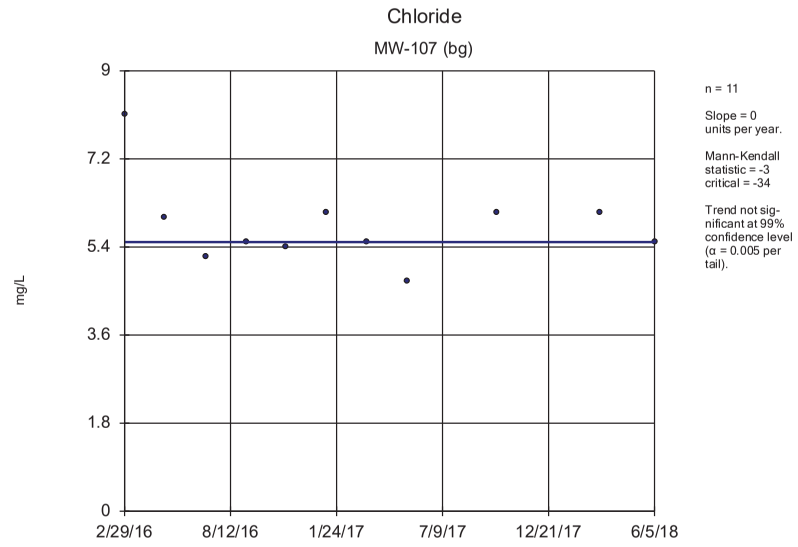

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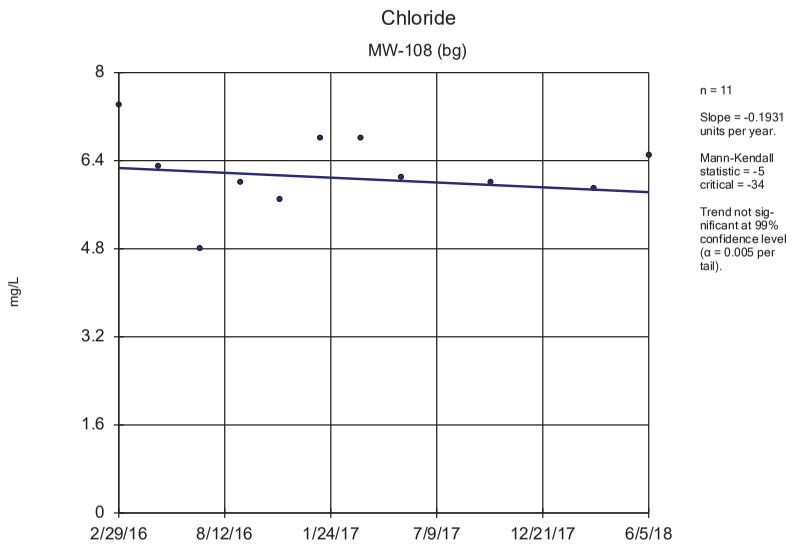

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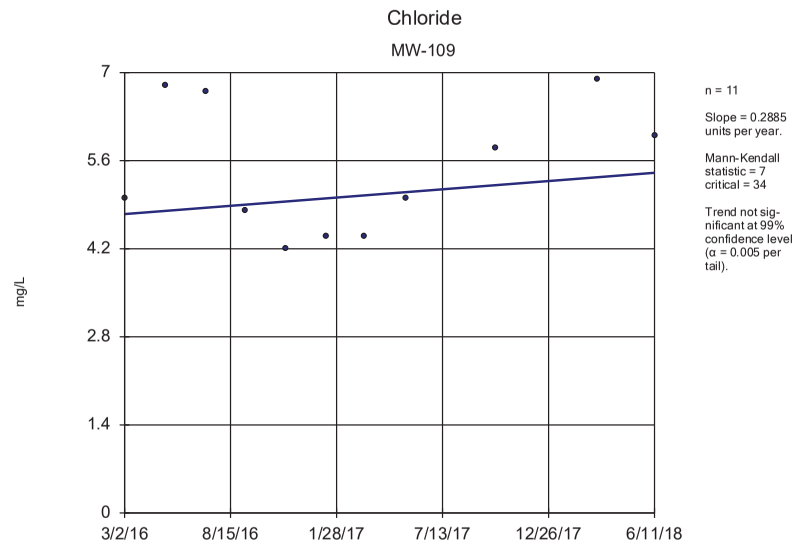

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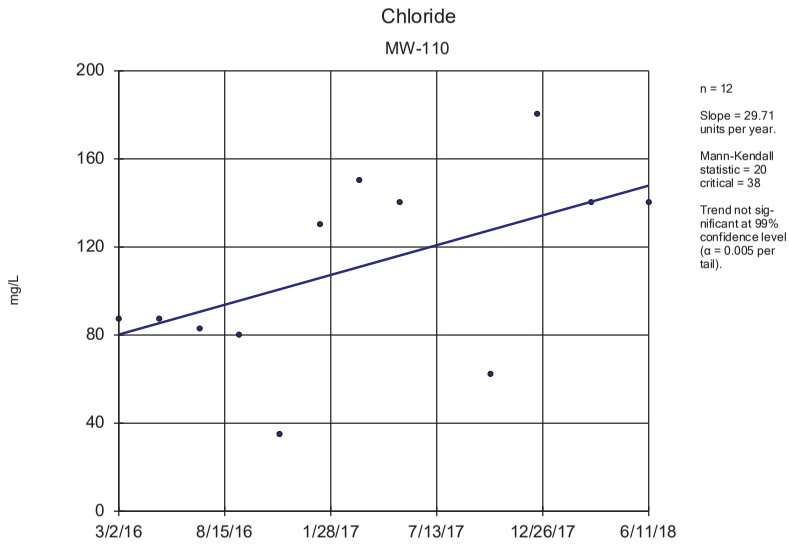

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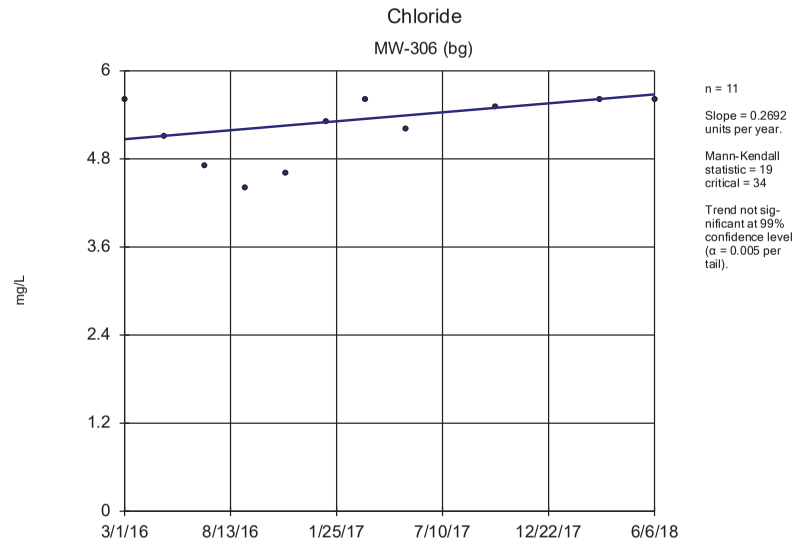

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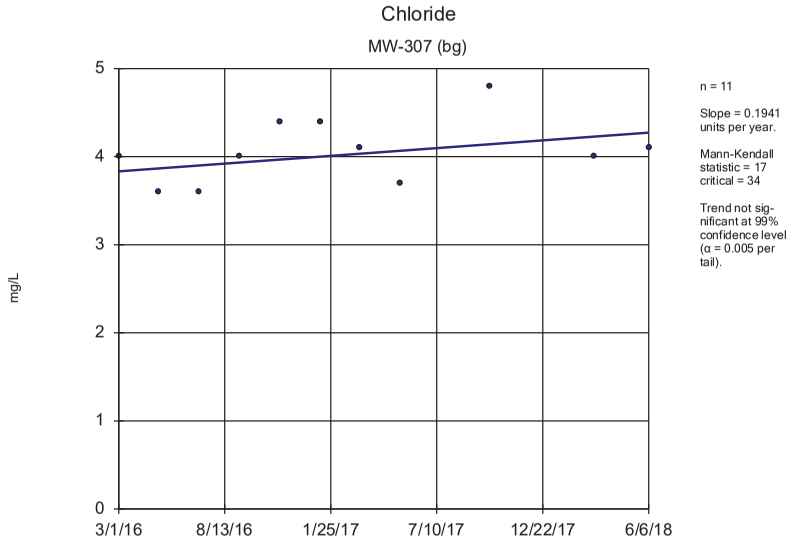

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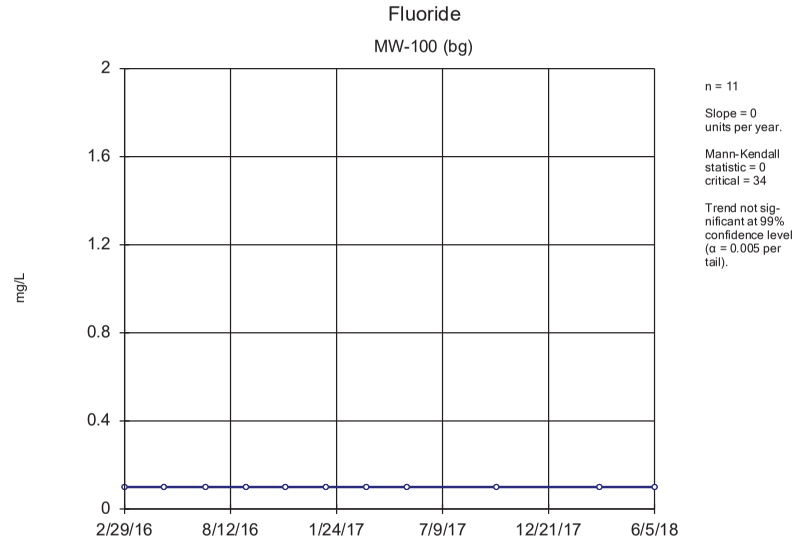

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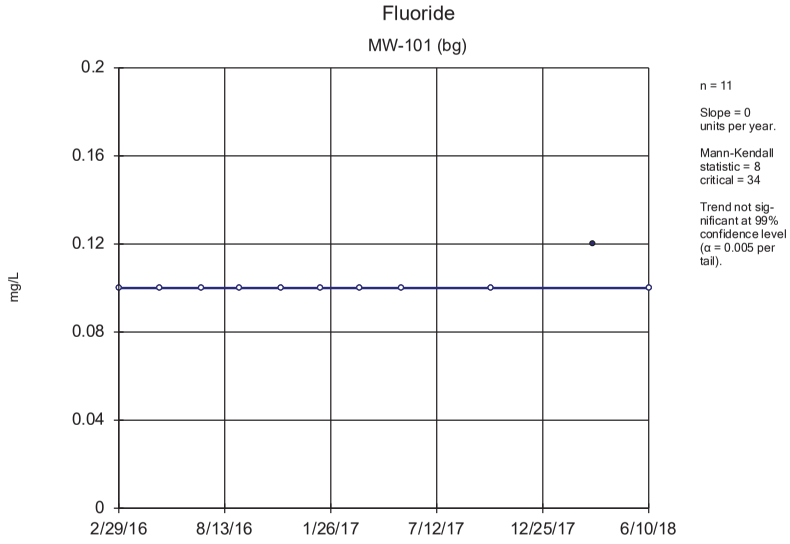

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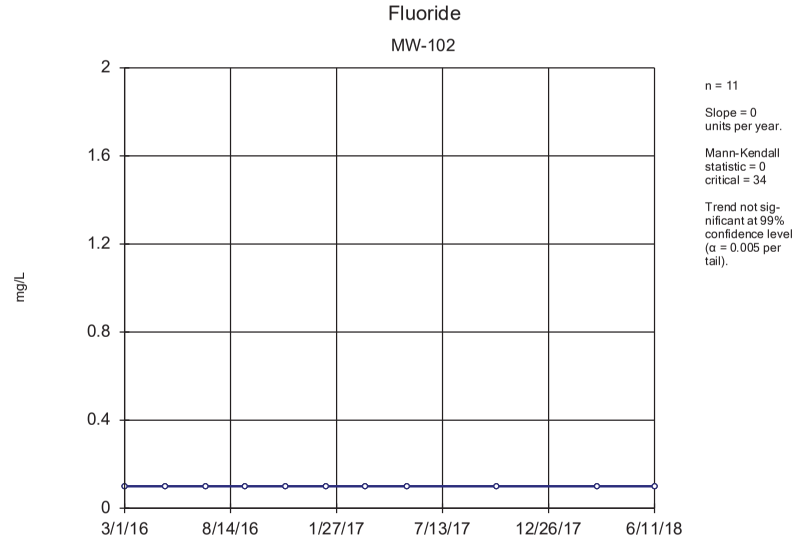

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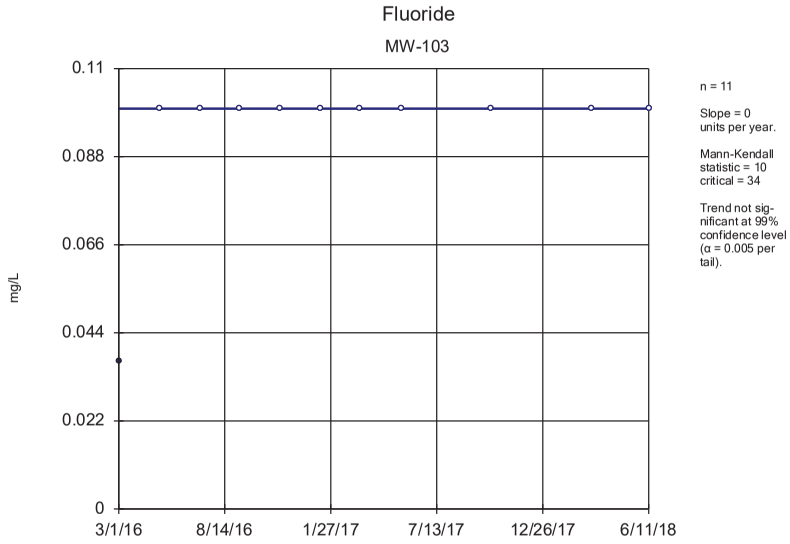

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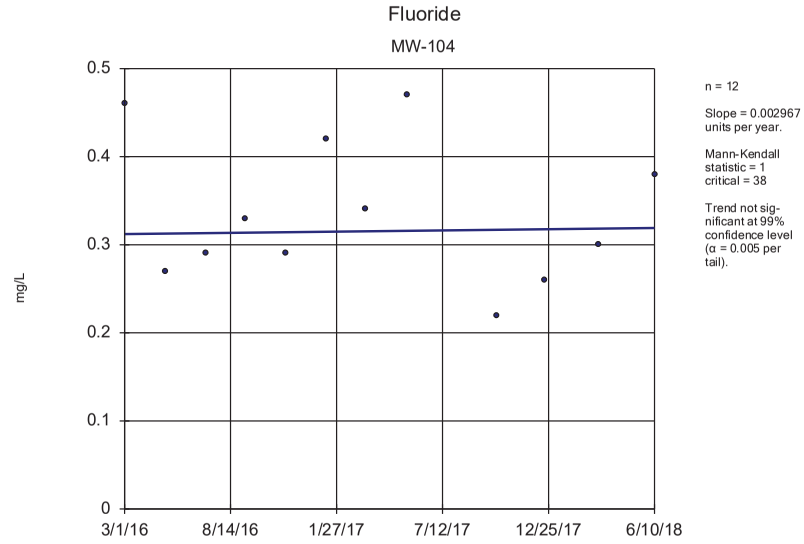

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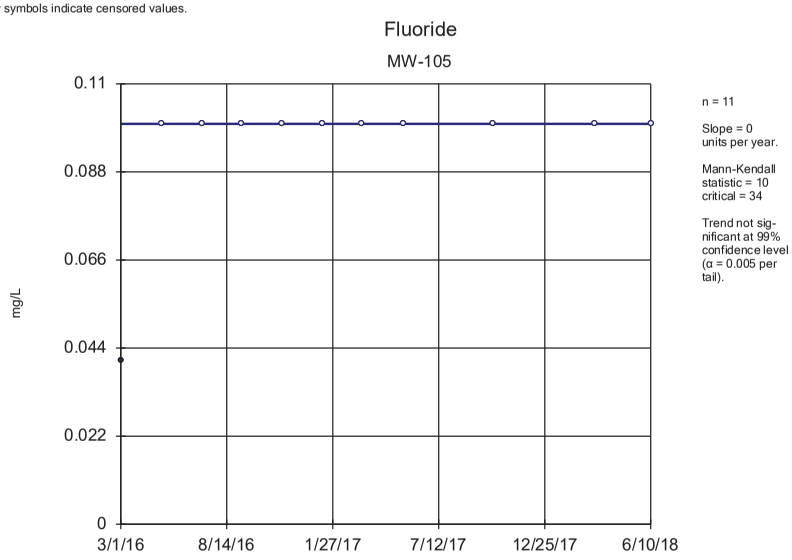

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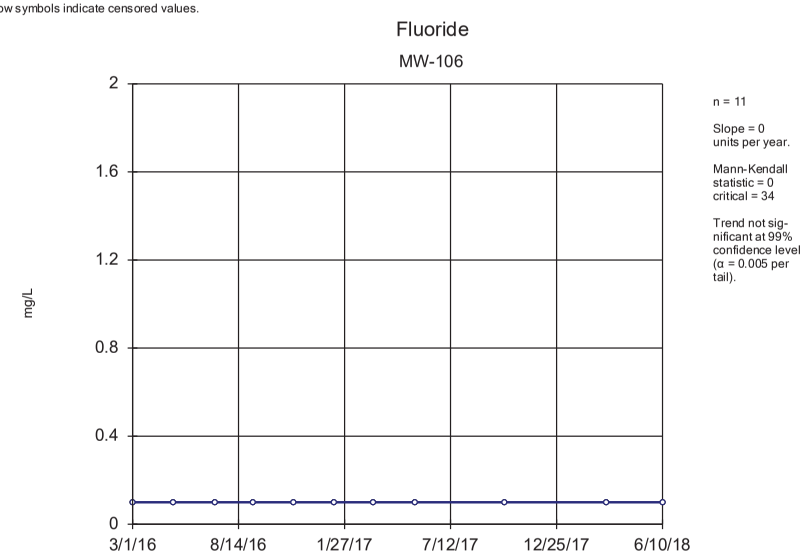

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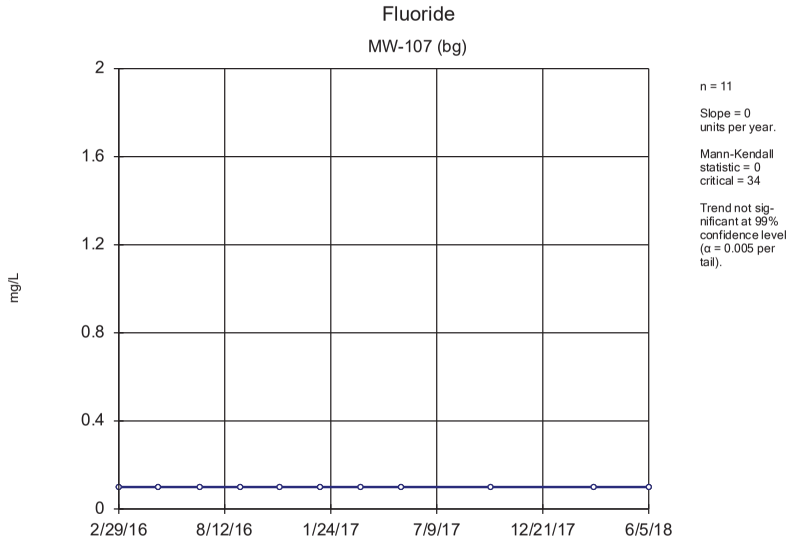

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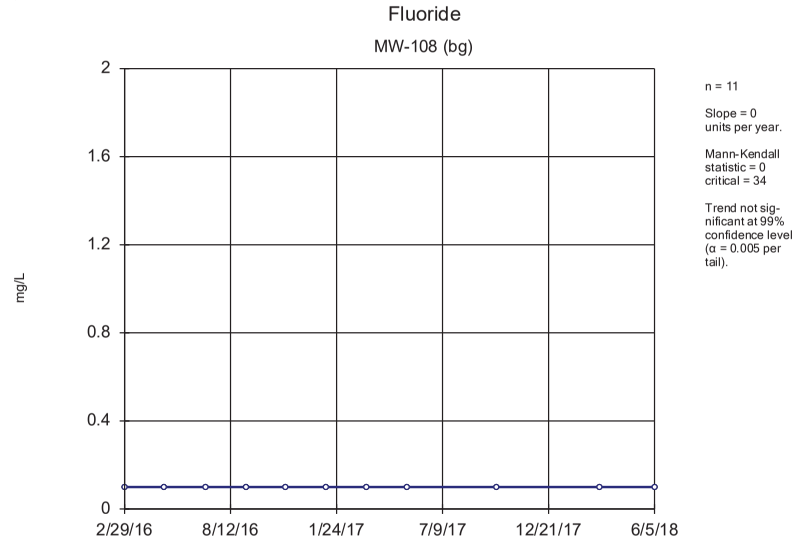

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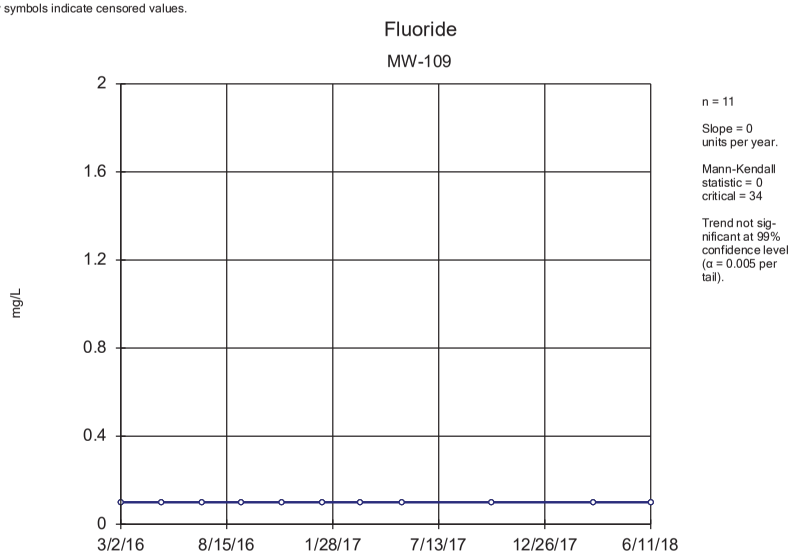

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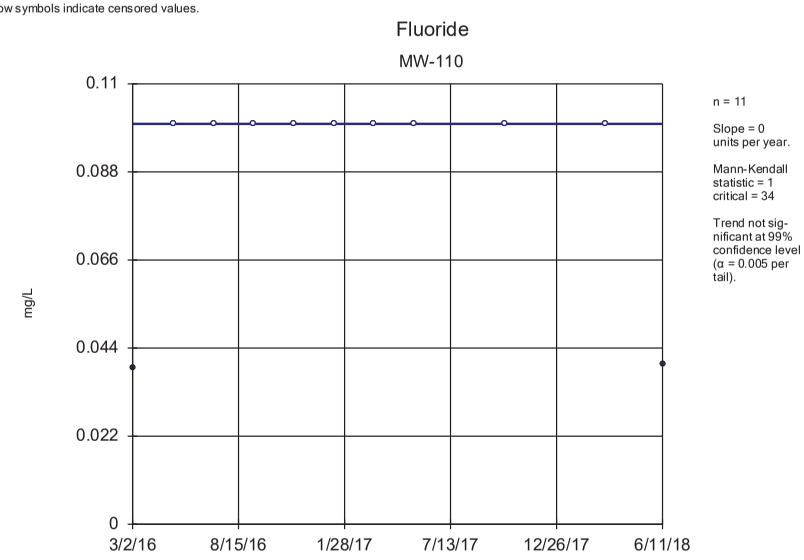

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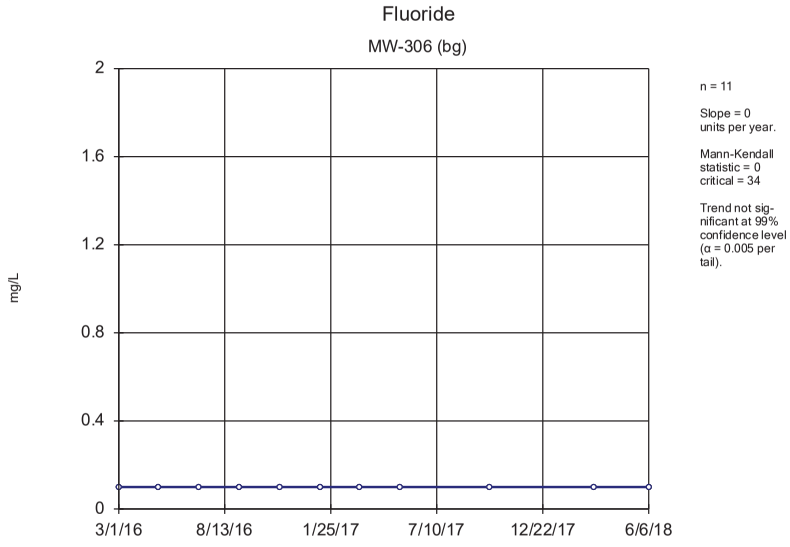

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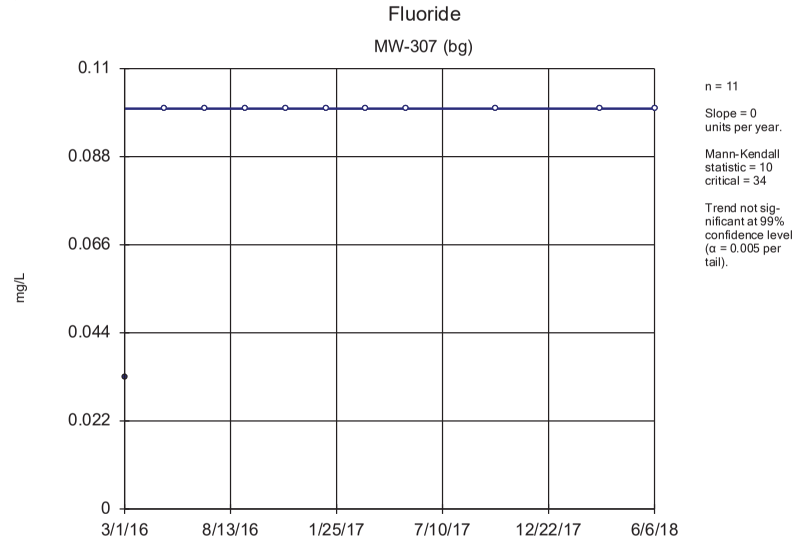

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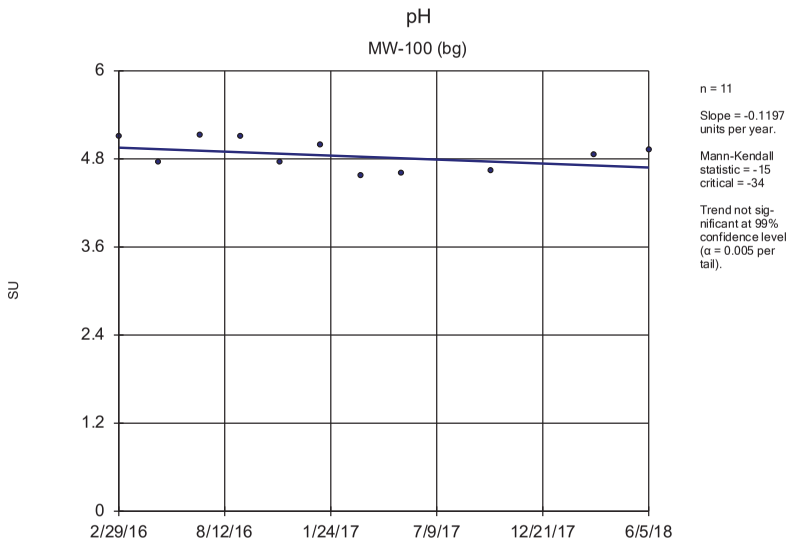

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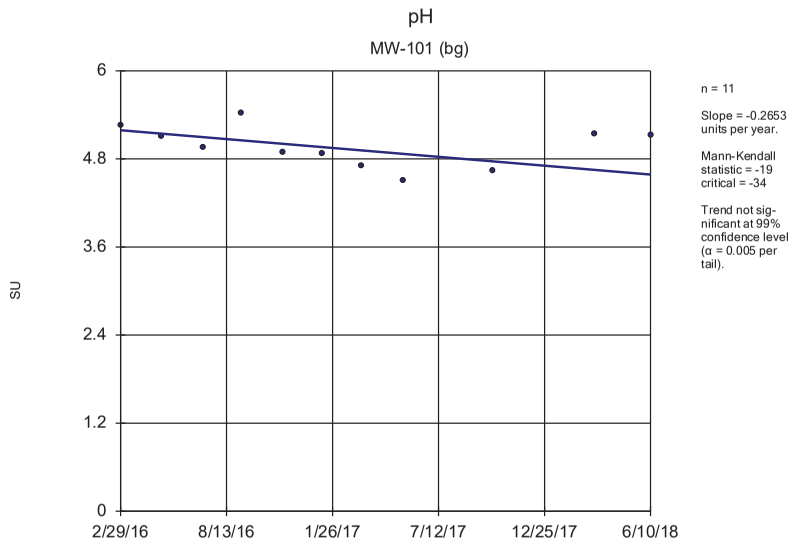

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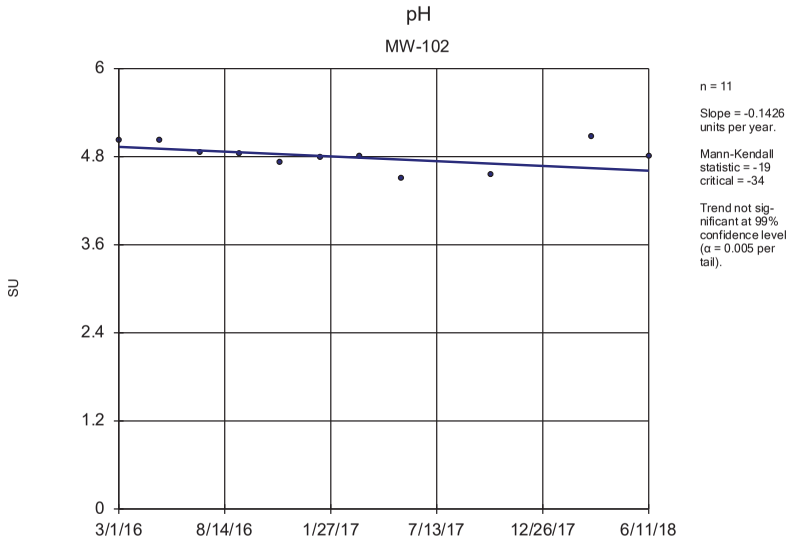

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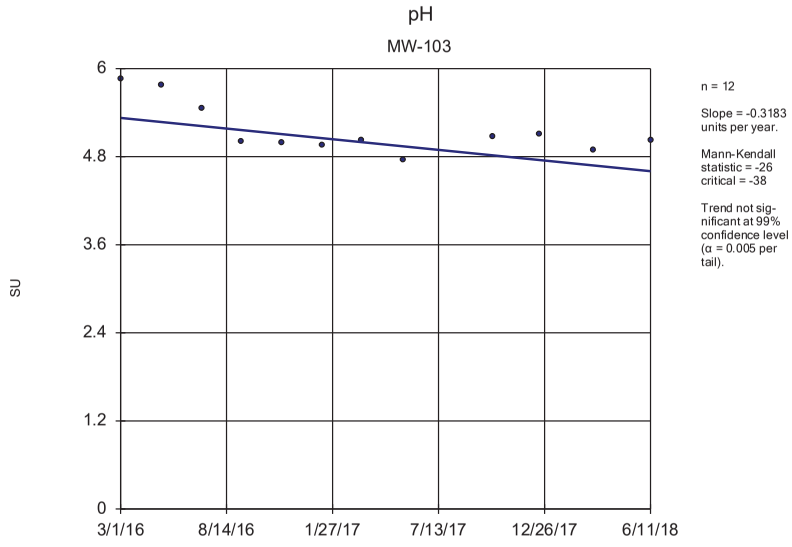

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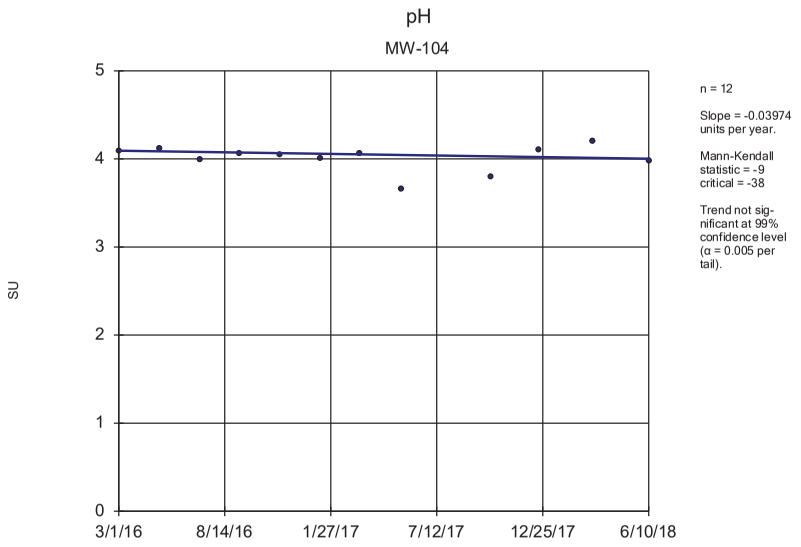

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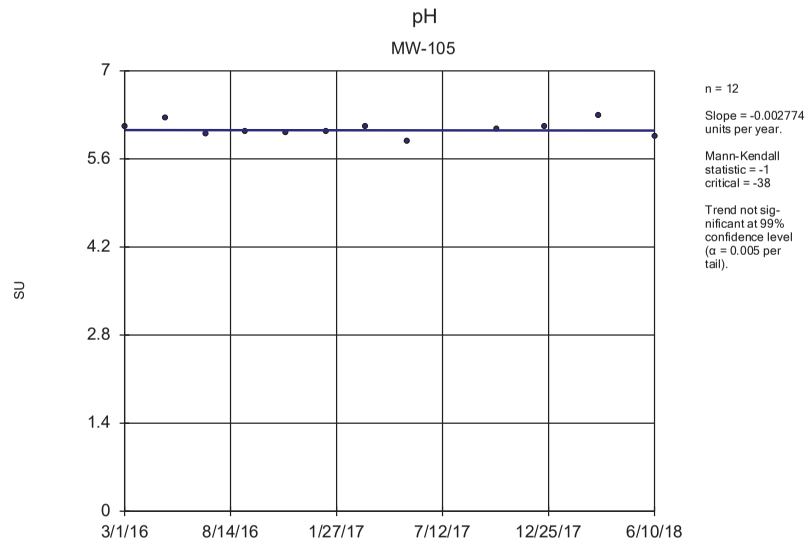

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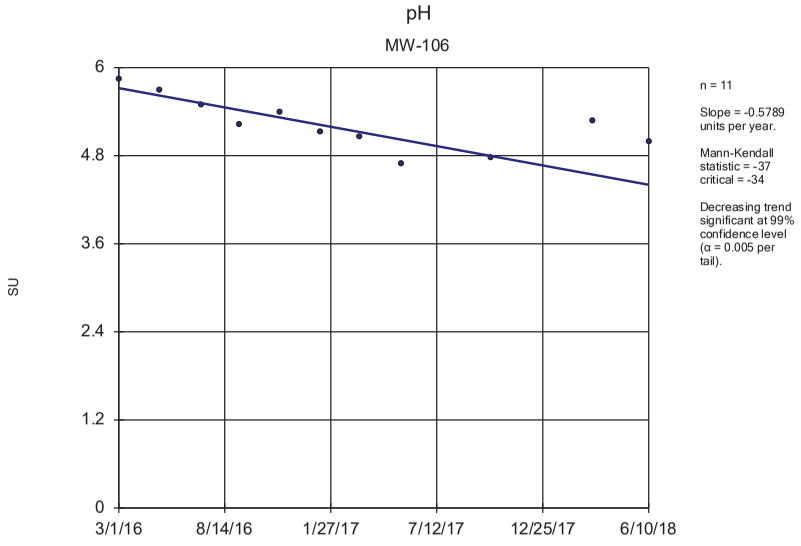

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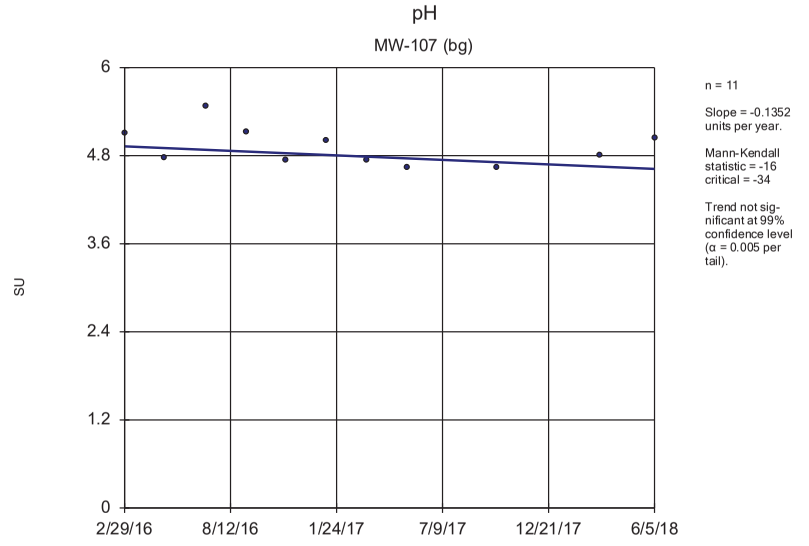

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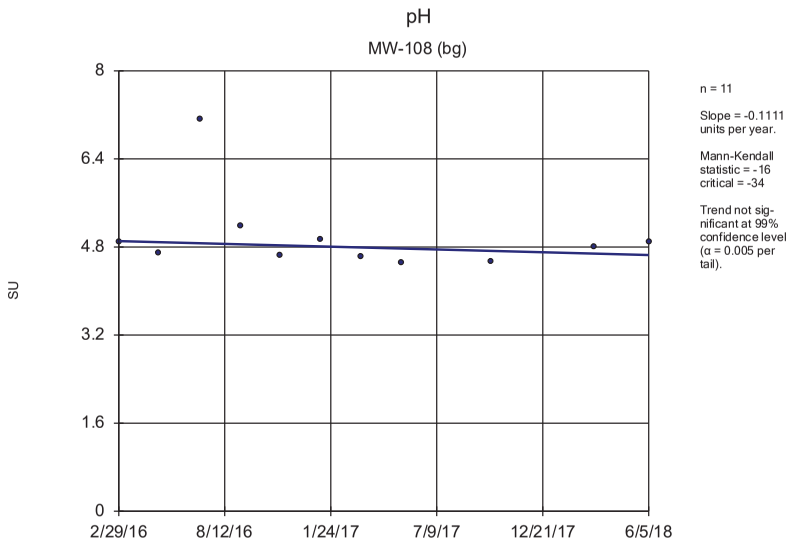

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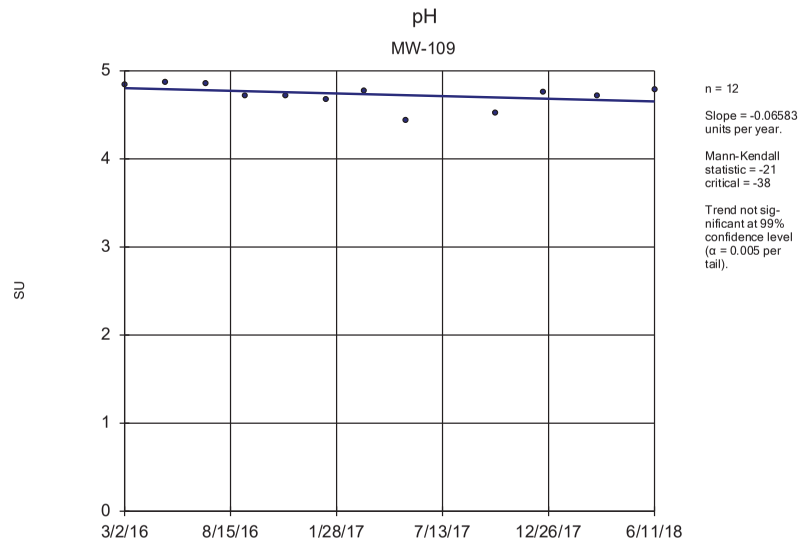

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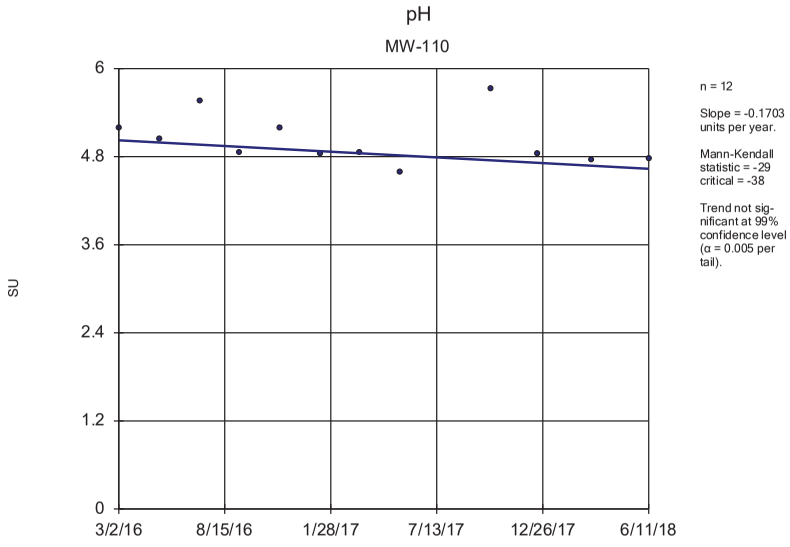

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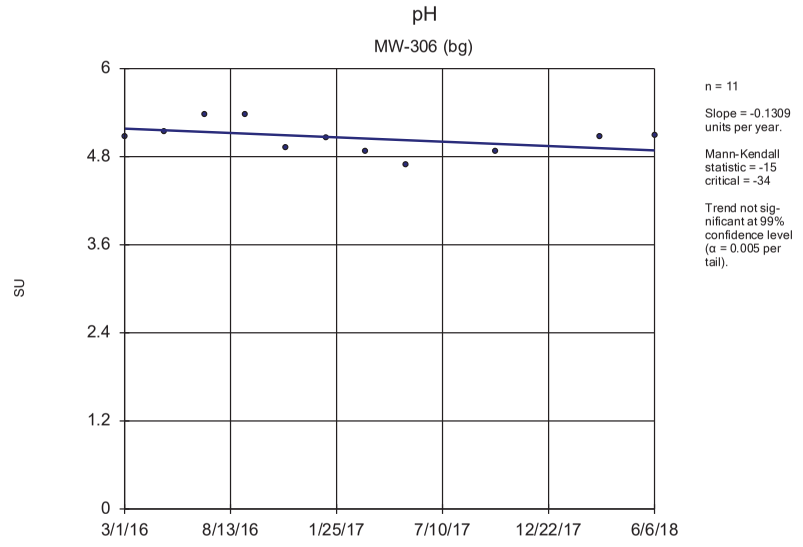

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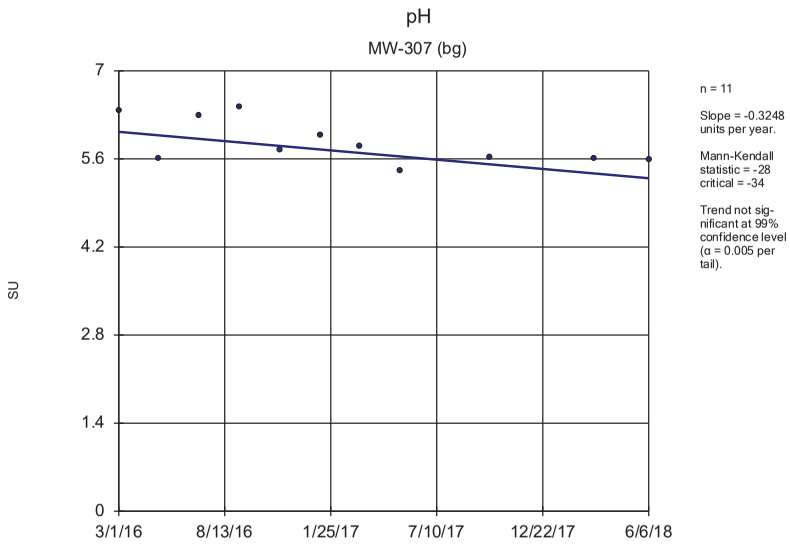

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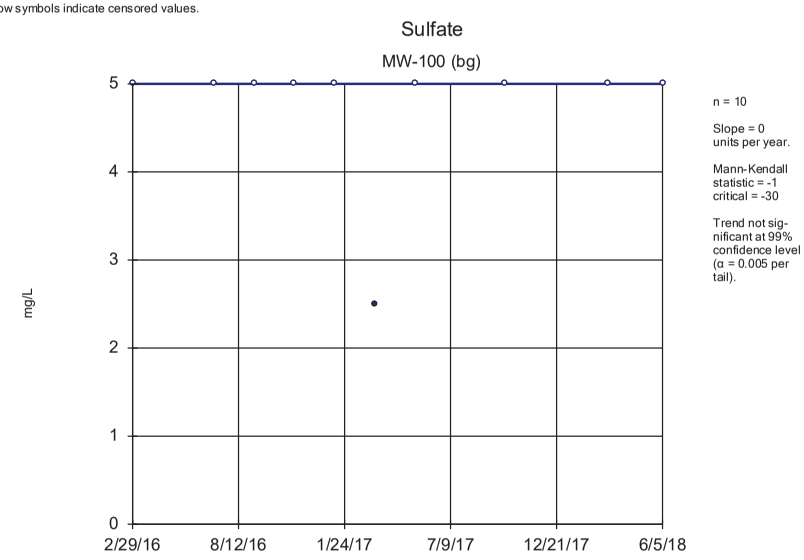

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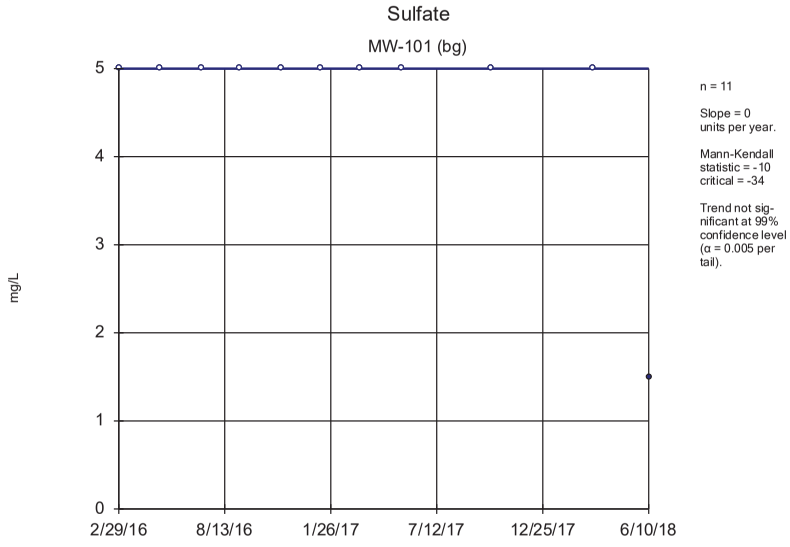

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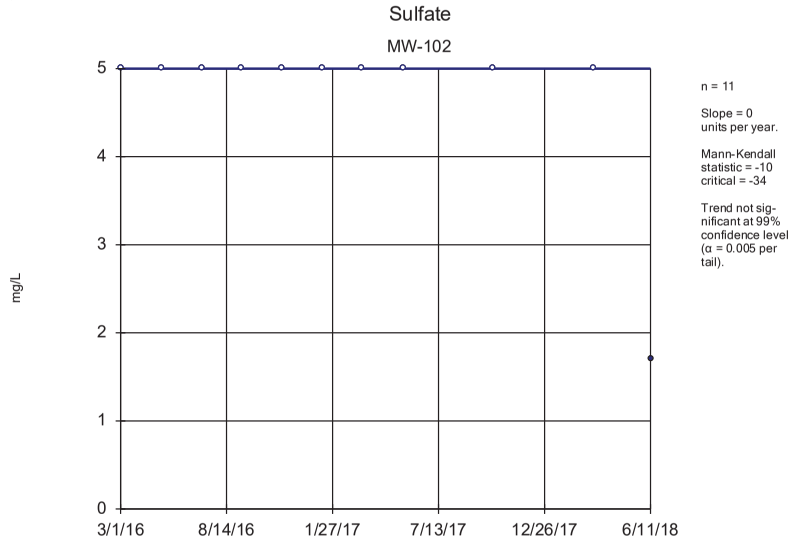

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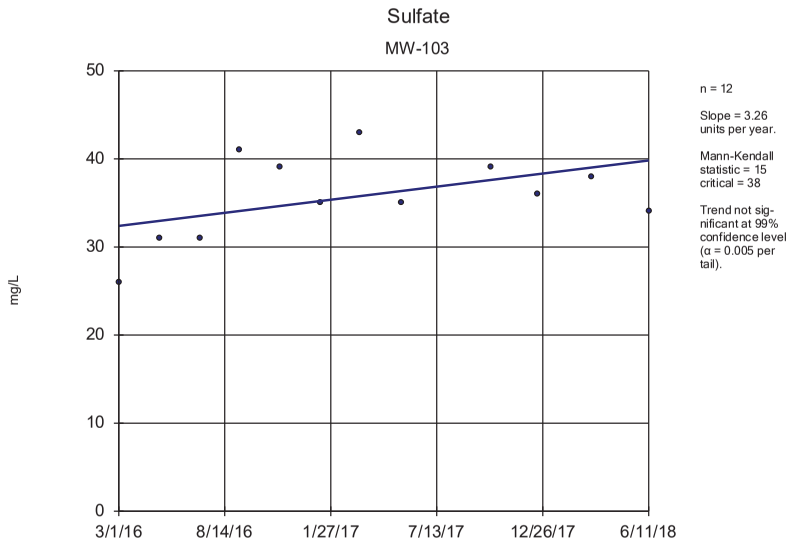

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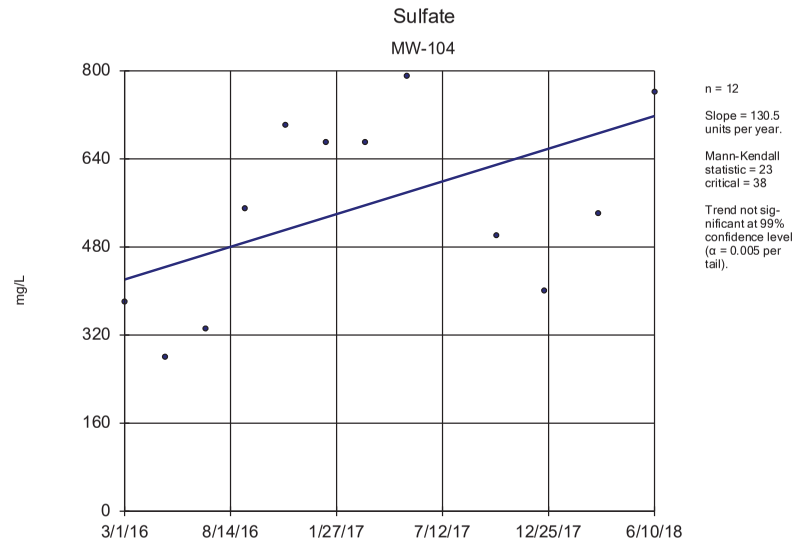

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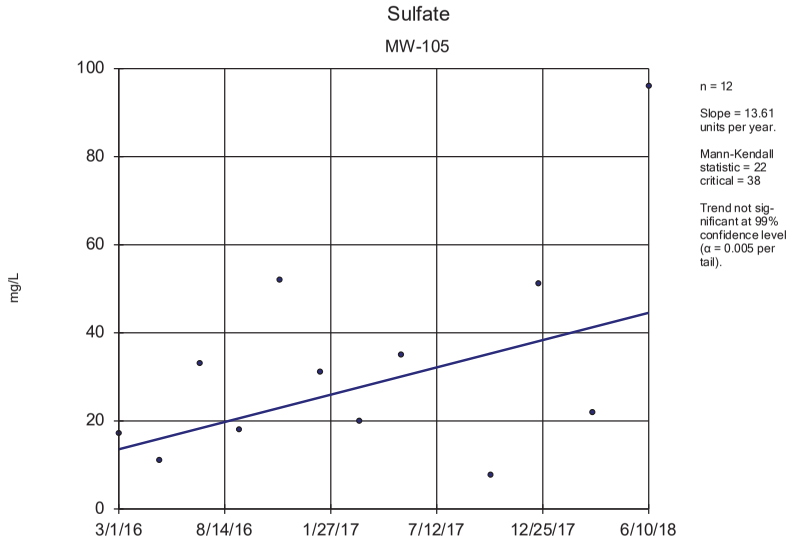

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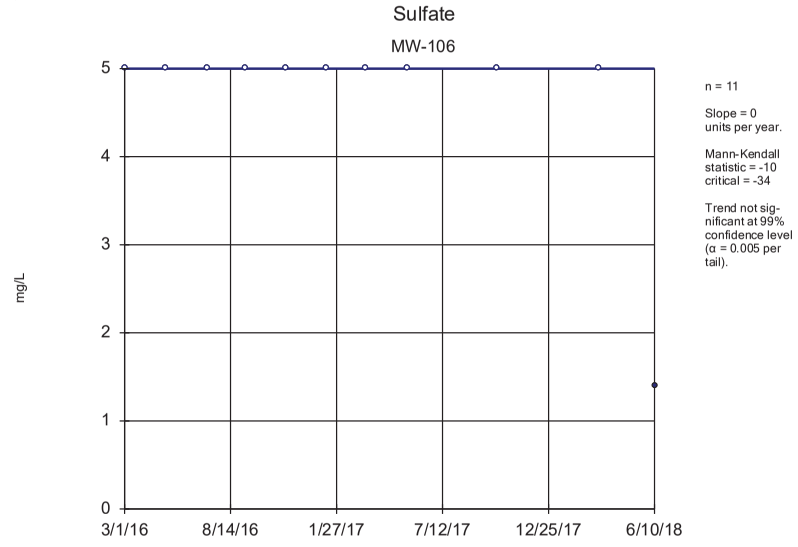

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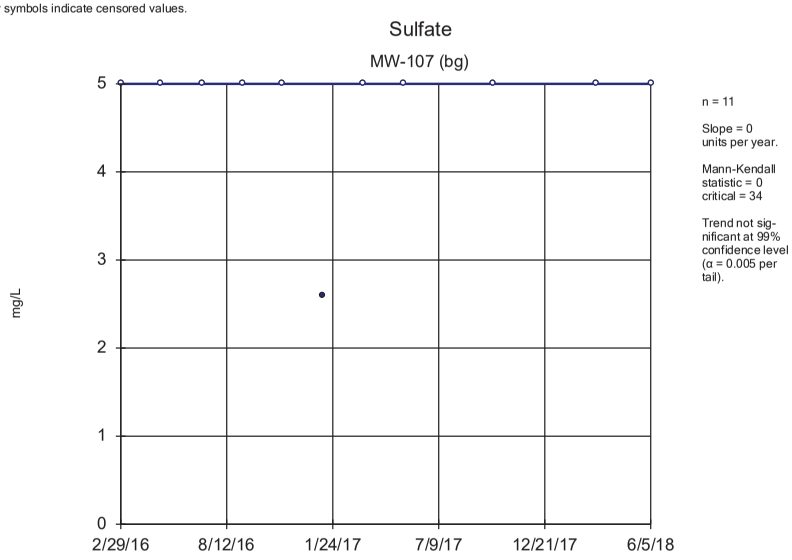

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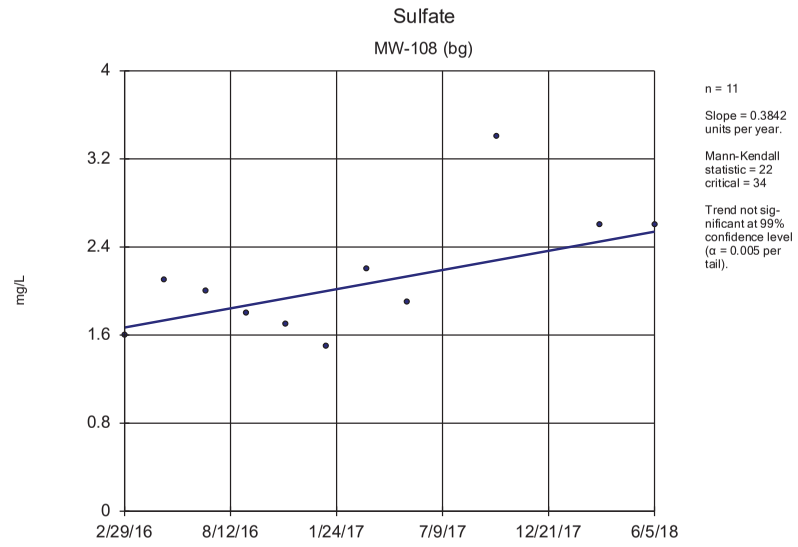

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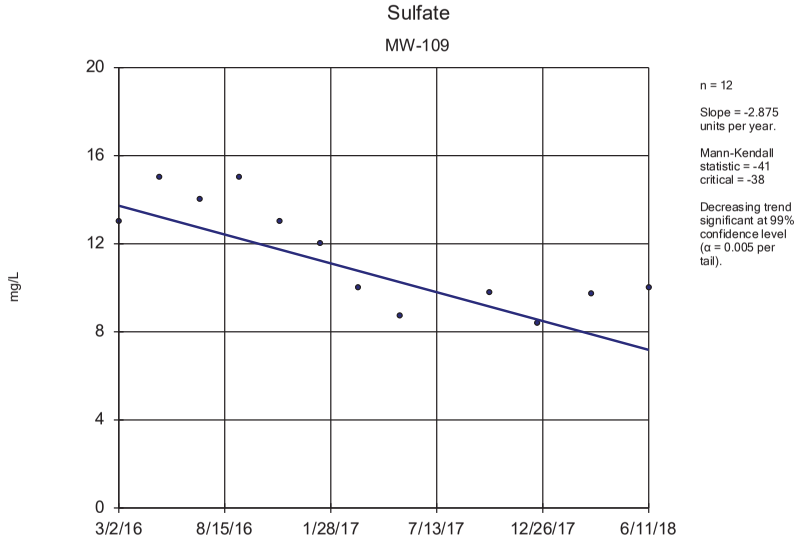

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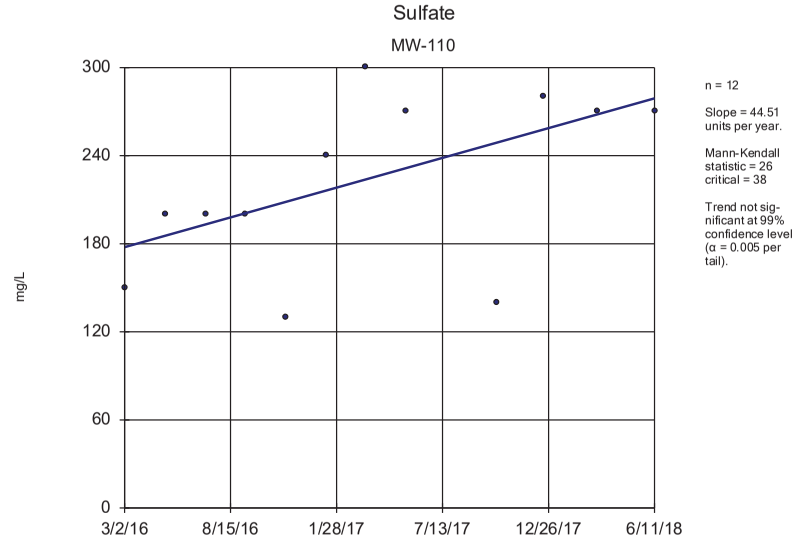

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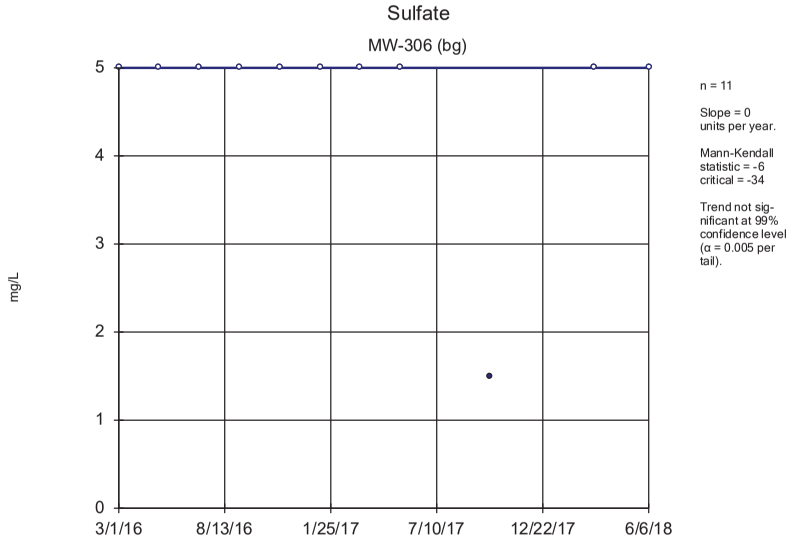

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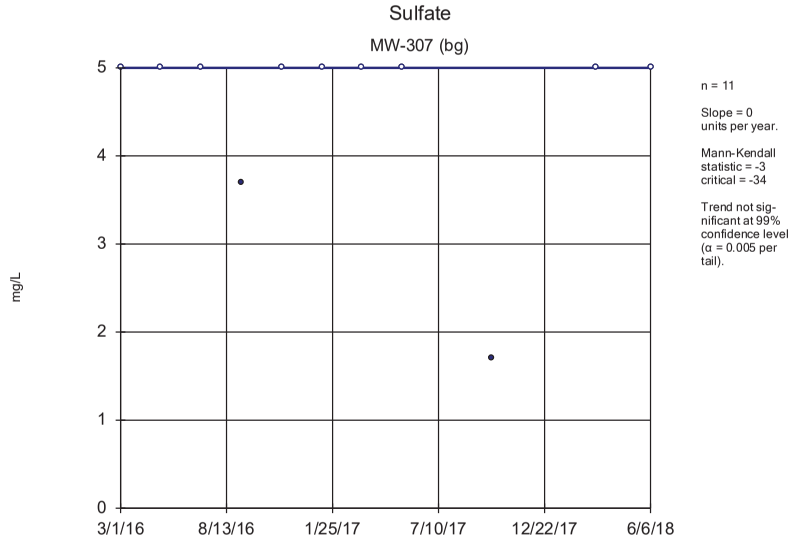

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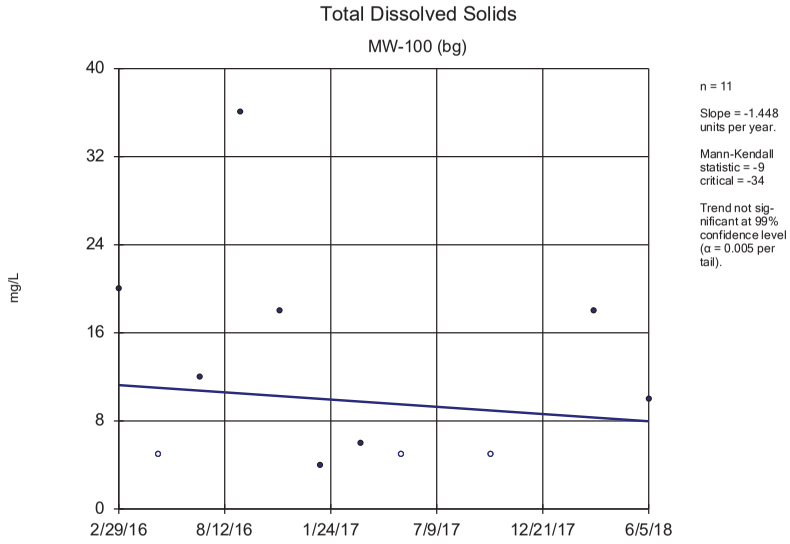

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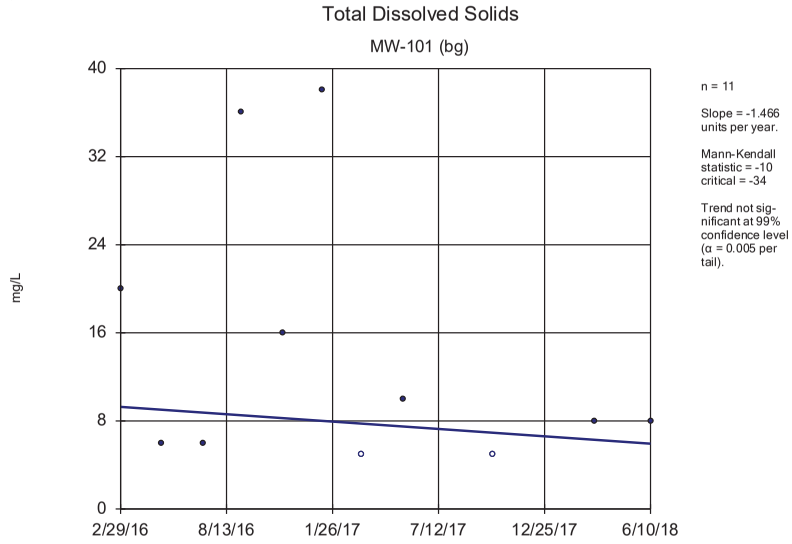

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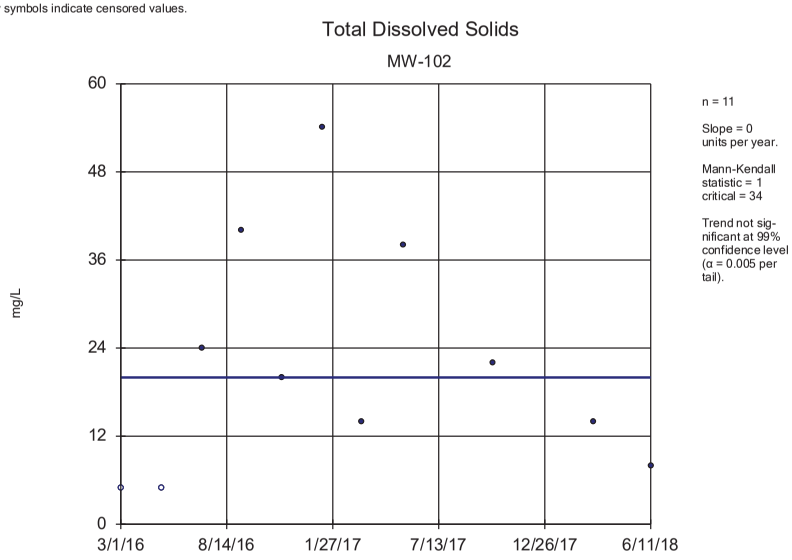

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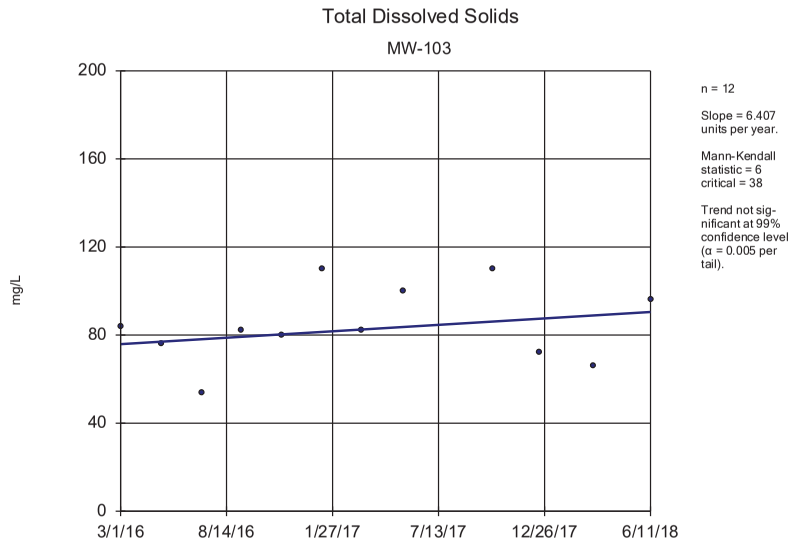

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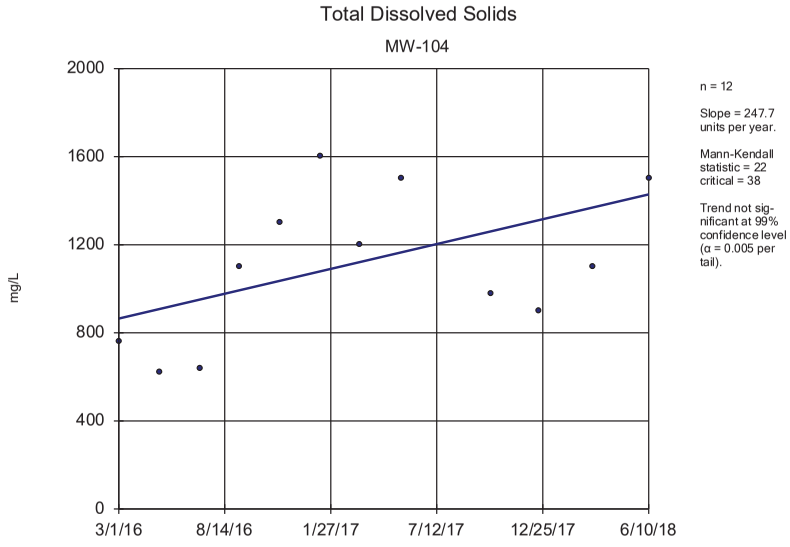

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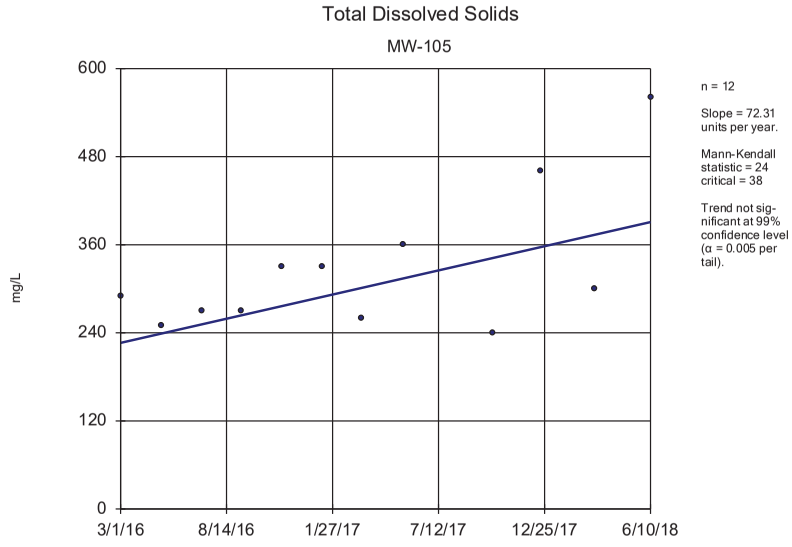

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Plant Crist Client: Southern Company Data: Plant Crist CCR

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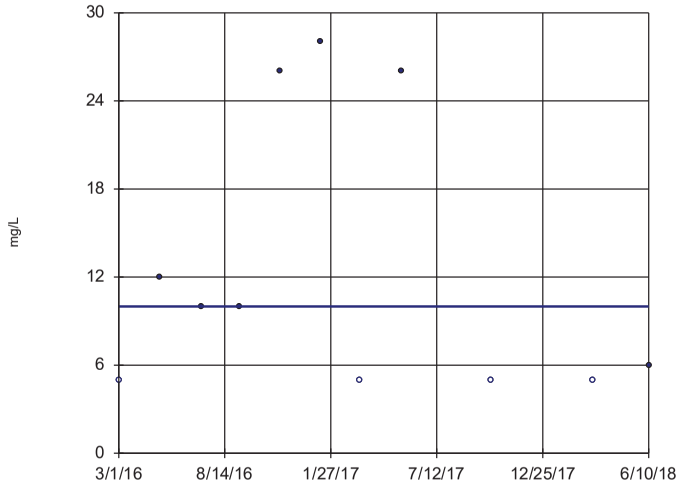
Hollow symbols indicate censored values.

Total Dissolved Solids

MW-106



n = 11

Slope = 0
units per year.

Mann-Kendall
statistic = -5
critical = -34

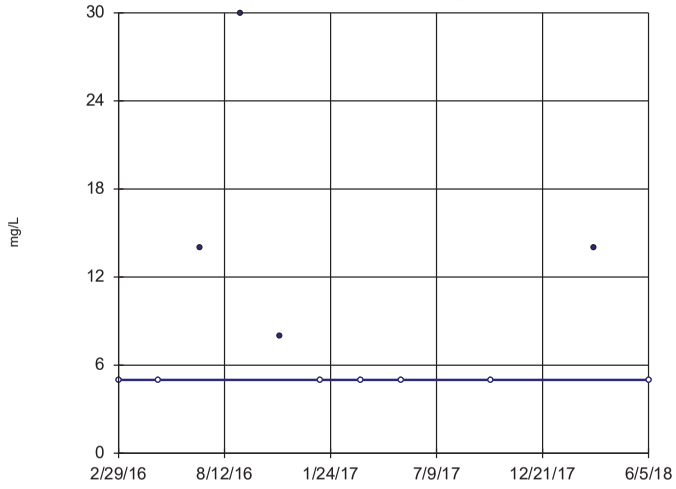
Trend not sig-
nificant at 99%
confidence level
(α = 0.005 per
tail).

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.

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critical = -34

Trend not sig-
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confidence level
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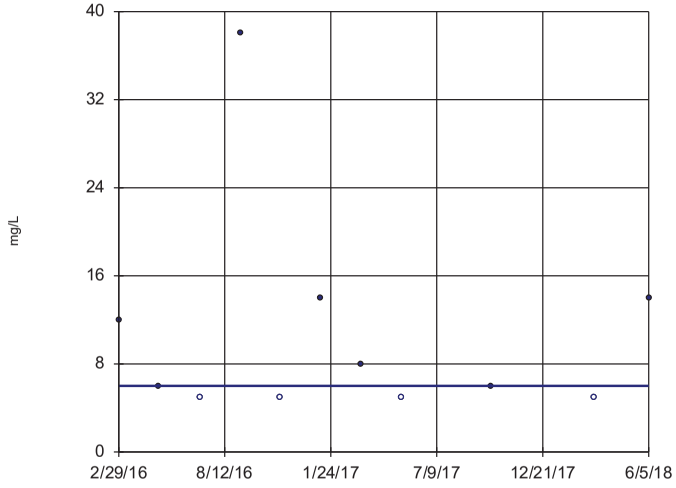
Total Dissolved Solids

MW-108 (bg)



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Slope = 0
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Mann-Kendall
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critical = -34

Trend not sig-
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(α = 0.005 per
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Sanitas™ v.9.6.07 Sanitas software licensed to Southern Company. UG
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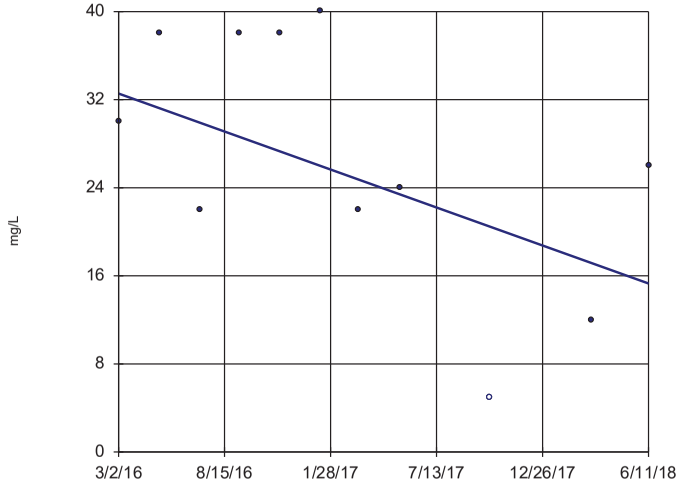
Total Dissolved Solids

MW-109



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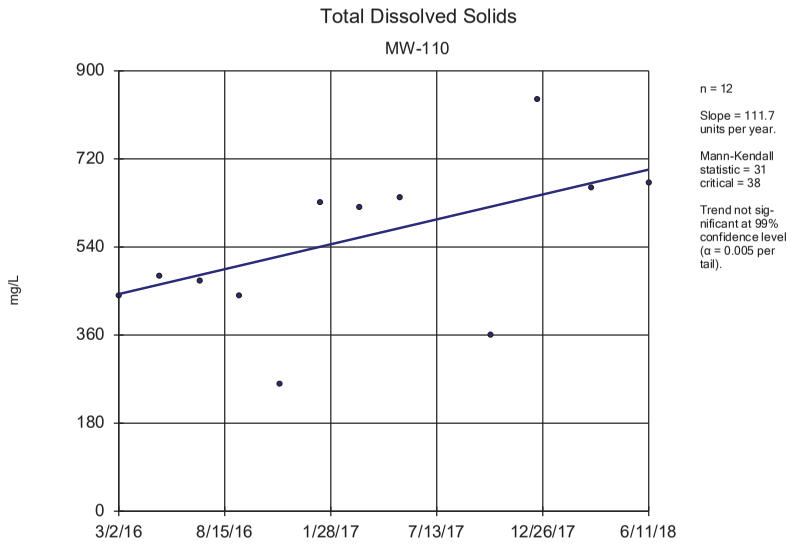

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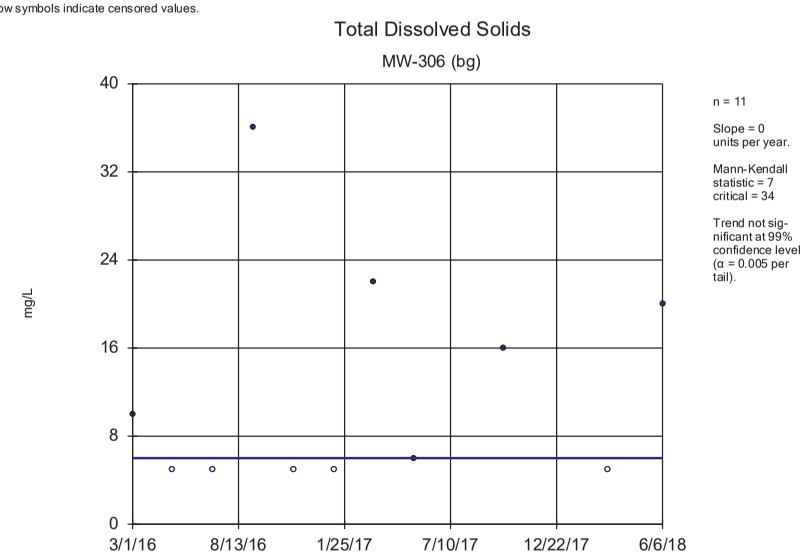

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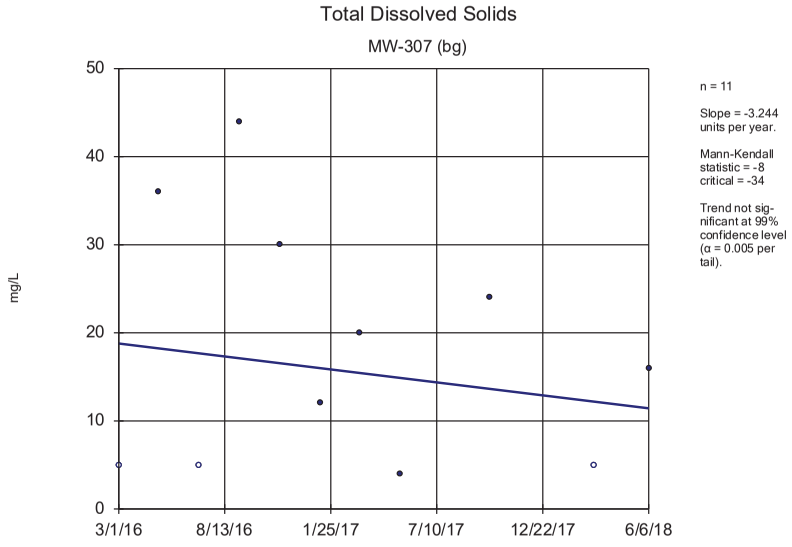


Sen's Slope Estimator Analysis Run 10/14/2018 5:24 PM View: Trends - 100 Series
Plant Crist Client: Southern Company Data: Plant Crist CCR

APPENDIX C

Alternate Source Demonstration, CCR Unit Ash Landfill No. 1

Geosyntec consultants

engineers | scientists | innovators

ALTERNATE SOURCE DEMONSTRATION

CCR UNIT ASH LANDFILL NO. 1

Crist Generating Plant
Gulf Power Company
Escambia County, Florida

Prepared for

Gulf Power Company
One Energy Place
Pensacola, Florida 32520

Prepared by

Geosyntec Consultants, Inc.
1120 North 12th Avenue
Pensacola, Florida 32501

Project TXR0943

January 2019

TABLE OF CONTENTS

CERTIFICATION STATEMENT iii

1. INTRODUCTION 1
   1.1 Background 1
   1.2 Purpose 1

2. ALTERNATE SOURCE DEMONSTRATION APPROACH 2
   2.1 Overview 2
   2.2 Analysis of Soils 2
   2.3 Analysis of Groundwater 3
   2.4 Analysis of Ash 3

3. ALTERNATE SOURCE DEMONSTRATION 4
   3.1 Radionuclides 4
   3.2 Mercury 5
   3.3 Cobalt 5

4. CONCLUSIONS 8

5. REFERENCES 9

List of Tables

Table 1 Cobalt Results from Historical Soil Cores

List of Figures

Figure 1 Site Layout – Ash Landfill No. 1
Figure 2 Plant Crist – Monitoring Well and Soil Boring Locations

List of Appendices

Appendix A Laboratory Analytical Reports

Geosyntec consultants

CERTIFICATION STATEMENT

Alternate Source Demonstration
Crist Generating Plant
CCR Unit Ash Landfill No. 1
Escambia County, Florida
January 11, 2019

I, Todd Anderson, a qualified professional engineer registered in the State of Florida, certify that the above document was completed consistent with the requirements stipulated in 40 CFR 257.95(g)(3)(ii) and that the information contained herein is, to the best of my knowledge, accurate.

Digitally signed by Todd D. Anderson, PE
Date: 2019.01.11 15:12:58 -05'00'

Seal and Signature | Date

1. INTRODUCTION

On behalf of Gulf Power Company (Gulf Power), Geosyntec Consultants Inc. (Geosyntec) has prepared this alternate source demonstration (ASD) report for Ash Landfill No. 1 at Gulf Power's Crist Generating Plant (Plant Crist) located in Escambia County, Florida (Site). This ASD has been prepared to meet the requirements of the United States Environmental Protection Agency's (USEPA's) Coal Combustion Residuals (CCR) Rule 40 CFR Part 257.95(g)(3)(ii) which states that the owner or operator may:

> *Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section and may return to detection monitoring if the constituents in appendices III and IV to this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.*

1.1 Background

Pursuant to the CCR Rule, Gulf Power installed and certified a groundwater monitoring system at Plant Crist's CCR Unit Ash Landfill No. 1 (**Figure 1**). Statistical analysis of data collected from the groundwater monitoring system through June 2018 indicated statistically significant levels (SSLs) of the following constituents above applicable groundwater protection standards (GWPS):

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

1.2 Purpose

The purpose of this report is to demonstrate that (i) naturally-occurring sources of SSL-related constituents (total radium, cobalt, and mercury) are present at the Site, and (ii) that these naturally-occurring sources, not Ash Landfill No. 1, caused the SSLs detected.

2. ALTERNATE SOURCE DEMONSTRATION APPROACH

2.1 Overview

Gulf Power identified SSLs of total radium, mercury, and/or cobalt in monitoring wells MW-103, MW-104, and MW-110 surrounding Ash Landfill No. 1 (**Figure 1**). This report demonstrates that Ash Landfill No. 1 is not the source of these SSLs.

The CCR Rule does not establish specific requirements for an ASD. However, appropriate guidance is contained in the *USEPA Solid Waste Disposal Facility Criteria Technical Manual* (USEPA, 1993) for municipal solid waste landfills. The approach to this ASD is modeled on the USEPA guidance document (USEPA, 1993) and relies on the following lines of evidence:

- For total radium, mercury, and cobalt, analysis of soils at the Site;
- For total radium, mercury, and cobalt, analysis of groundwater at the Site; and
- For total radium, analysis of ash stored in Ash Landfill No. 1.

A brief description of the components of this ASD is presented below. A detailed analysis of data and discussion is presented in Section 3.

2.2 Analysis of Soils

Site soils were evaluated to determine the potential for naturally-occurring radionuclides (gross alpha and total radium) and mercury on-site using soil data collected during previous investigations at Plant Crist. Additionally, the presence of naturally-occurring cobalt was evaluated by sampling and analyzing previously collected soil cores, as discussed herein.

The decay of parent radionuclides, such as uranium-238 and thorium-232, results in the production of daughter radionuclides including radium-226 and radium-228. Therefore, the total radium evaluation focused on identifying the presence of parent radionuclides. The presence of uranium and/or thorium in Site soils would indicate the potential for a naturally-occurring total radium source. Alternatively, the absence of parent radionuclides would indicate the potential source may be Ash Landfill No. 1.

Similarly, a naturally-occurring source of mercury or cobalt would be indicated by the presence of elevated concentrations of mercury or cobalt throughout Site soils, regardless of spatial proximity to Ash Landfill No. 1. In contrast, elevated concentrations in soils surrounding Ash Landfill No. 1 and the absence of elevated contaminant concentrations beyond the influence of Ash Landfill No. 1 would indicate the potential source may be Ash Landfill No. 1.

2.3 Analysis of Groundwater

The temporal and spatial variability of total radium, mercury, and cobalt concentrations in groundwater at the Site, that can be influenced by naturally-occurring sources of these constituents in Site-soils, was evaluated using recent CCR groundwater monitoring data and previous Site investigations, where available. A naturally-occurring source of total radium, mercury, or cobalt could be indicated by the presence of elevated concentrations of total radium, mercury, or cobalt throughout the Site groundwater regardless of hydraulic connectivity to Ash Landfill No. 1. A localized source, such as Ash Landfill No. 1, however, would be indicated by the presence of elevated concentrations of these constituents in monitoring wells downgradient of Ash Landfill No. 1, and the absence of elevated concentrations of these constituents in monitoring wells that are hydraulically disconnected from Ash Landfill No. 1.

2.4 Analysis of Ash

The potential for ash managed in Ash Landfill No. 1 to be the source of the SSLs of total radium was evaluated by analyzing the leaching potential of ash; this evaluation was performed in a previous investigation by LBG-Guyton in 1998. If observed, elevated concentrations of total radium identified by the leaching tests would indicate that Ash Landfill No. 1 was a potential source of total radium.

3. ALTERNATE SOURCE DEMONSTRATION

3.1 Radionuclides

In 1998, Gulf Power conducted a study to evaluate elevated levels of total radium in groundwater monitoring wells at Plant Crist. The results of this study were presented in the 1998 report prepared by LBG-Guyton titled "Investigation for Potential Sources of Elevated Radiological Activity in Two Monitoring Wells at Crist Electric Generating Plant, James F. Crist Generating Plant." The objective of this study was to evaluate the potential source of elevated total radium activities detected in two wells (MW-4S and MW-4D, which have subsequently been renamed MWC-4 and MWI-2, respectively). These wells are located northeast of the stormwater pond (**Figure 1**). Ash, native soil, surface water, and groundwater samples were analyzed, and leaching tests were performed on ash and native soil.

The conclusions from the 1998 investigation indicated that Ash Landfill No. 1 was not the source of the elevated total radium observed in groundwater (LBG-Guyton, 1998). Key findings included:

- Total radium activities of contact stormwater in the stormwater pond were less than the maximum contaminant level (MCL) of 5 picocuries per liter (pCi/L), which is equivalent to the GWPS. However, total radium activities exceeded the MCL at downgradient monitoring wells MW-4S and MW-4D that are in hydraulic connection (similar geochemical signature) with the stormwater pond.
- Ash could be eliminated as a potential source of the elevated total radium because leaching test results showed ash leachate did not contain total radium above the GWPS.
- Laboratory analyses indicated that native soils were enriched in uranium and thorium (whose radioactive decay products result in total radium). Leaching of native soils resulted in leachate containing total radium above the GWPS, independent of the dissolved solids concentrations of pre-leach solutions. The low pH of leachates produced from the native soils results in the mobilization of total radium in groundwater.

The Florida Department of Environment Protection (FDEP) agreed with these findings stating that "the source of the elevated radionuclides in MW-4S and MW-4D was the natural soils and caused by natural chemical reactions in the groundwater" in a letter memorandum dated February 22, 1999 (FDEP, 1999).

The conclusions from the 1998 investigation (with FDEP concurrence) support an alternate source for total radium in groundwater for Ash Landfill No. 1 at Plant Crist. The

results of the 1998 investigation demonstrate that the decay of naturally-occurring uranium and thorium present at significant concentrations in native soils at the Site are the likely alternate source of total radium in groundwater at Ash Landfill No. 1. For detailed data presentation and interpretation, see LBG-Guyton (1998) and FDEP (1999).

3.2 Mercury

In 2014, mercury concentrations were detected above the FDEP Groundwater Cleanup Target Level (GCTL; Chapter 62-777, Florida Administrative Code) of 0.002 milligrams per liter (mg/L) in monitoring wells MWC-10 and MW-A near Ash Landfill No. 1 at Plant Crist (**Figure 1**). Gulf Power retained Geosyntec to conduct an investigation of mercury in groundwater in the vicinity of these wells.

The study ("Assessment Report, James F. Crist Generating Plant," Geosyntec 2014) reported that the subsurface distribution of mercury was not consistent with the migration of a plume originating from a defined source (e.g., Ash Landfill No. 1) but was typical of releases related to geochemical factors that control periodic mobilization of mercury that occurs naturally in Site sediments. In addition, the variable spatial concentrations of mercury reported by Geosyntec (2017) indicate that the presence of mercury in groundwater is due to changes in pH and E_h (oxidation reduction potential) that control releases of mercury from redox-sensitive substrates with which mercury is associated either by adsorption or absorption. Therefore, the dissolved mercury observed in groundwater was not related to advective transport from Ash Landfill No. 1. The FDEP approved these findings in correspondence dated May 1, 2015 and July 6, 2017 (FDEP, 2015 and 2017).

An SSL for mercury was detected in Ash Landfill No. 1 monitoring well MW-110 (**Figure 1**). While MW-110 is located downgradient of Ash Landfill No. 1, it was observed that mercury measurements in other downgradient monitoring wells (MW-104, MW-105, MW-106, and MW-109) were less than the GWPS and did not represent an SSL. Based on available data, Ash Landfill No. 1 is not the source of the mercury SSL observed in MW-110. For detailed data presentation and interpretation, see Geosyntec (2014, 2017) and FDEP (2015, 2017).

3.3 Cobalt

An SSL for cobalt was detected in Ash Landfill No. 1 monitoring well MW-104 (**Figure 1**). Cobalt measurements in remaining downgradient monitoring wells (MW-105, MW-106, MW-109, and MW-110) were less than the GWPS and did not represent an SSL. This limited spatial distribution of elevated cobalt suggested the cobalt SSL in MW-104 was not associated with a release from Ash Landfill No. 1.

Gulf Power retained Geosyntec to evaluate the potential source of cobalt in MW-104. Geosyntec obtained soil samples from soil cores collected during historical monitoring well installation activities that had been sealed in plastic bags and placed in long-term storage at Plant Crist's climate-controlled warehouse. Thirty-four samples were collected from the soil cores in August 2018 for laboratory analysis. Soil samples were selected based on their proximity to MW-104 (**Figure 2**) and lithology. Sampling intervals included elevations that were above, within, and below the screen interval elevation of MW-104 with respect to the North American Vertical Datum of 1988 (NAVD88). The elevation of the screen interval of MW-104 is approximately -8 to -18 feet (ft) NAVD88. Soil samples were also collected based on the lithology of the available core material (sand, silt, clay, etc.). Collected samples were analyzed for total cobalt. Select samples with reported detections of total cobalt were also analyzed by synthetic precipitation leaching procedure (SPLP). The sampling intervals and laboratory results for the soil samples are summarized in **Table 1** and the boring locations relative to CCR well MW-104 are shown on **Figure 2** (laboratory analytical reports are provided in **Appendix A**).

The results from this investigation are summarized below:

- Laboratory results reported overall detections of total cobalt in 16 of 34 samples analyzed (approximately 47%) and 10 of 11 locations (approximate 91%) at concentrations ranging from 0.0874(I) to 19.6 mg/kg.
- Nine of 16 cobalt detections (approximately 56%) were "I" qualified, indicating that these concentrations were estimated and between the method detection limit and the practical quantification limit of the laboratory method.
- Cobalt was detected in 4 of 5 soil borings in the vicinity of Ash Landfill No. 1 at concentrations ranging from 0.0956(I) to 15.4 mg/kg, including downgradient locations MWC-5 (labeled GE-5DR on **Figure 2**), MWC-8, and MW-D, and upgradient location MWP-13 at elevations above and below the screen interval elevation of MW-104 between approximately 80 and -66 ft NAVD88.
- Of the samples collected elsewhere at the Site (i.e., from borings associated with MWP-13R, EXB-02, GE-4DR, MWC-7R, MW-3D (labeled MWI-1 on **Figure 2**), MW-4D (labeled MWI-2 on **Figure 2**), and MWP-11R), cobalt was detected in 9 of 17 samples (approximately 53%) at concentrations ranging from 0.0874(I) to 19.6 mg/kg, suggesting Site-wide occurrence of cobalt.

The following eight soil samples, collected in the vicinity of Ash Landfill No. 1, were also analyzed for the potential to leach cobalt from native soils to groundwater by SPLP: MWC-5DR-58'; MWC-5DR-94'; MWC-8R-30'; MWC-8R-42'; MWC-8R-57'; MWC-8R-132'; MW-D-35'; and MWP-13R-62'. Three of the eight soil samples resulted in SPLP leachate concentrations of cobalt above the GWPS of 6 micrograms per liter (µg/L).

These samples included MWC-8R-30' (82 ft above the top of the screen of MW-104), MWC-8R-57' (55 ft above the top of the screen of MW-104), and MWC-8R-132' (10 ft below the bottom of the MW-104 screen). The vertical distribution of these SPLP leachate detections in the vicinity of Ash Landfill No. 1 indicate that naturally-occurring cobalt is distributed throughout a soil horizon exceeding 100-ft. The concentration range of these SPLP leachate detections indicates that the naturally-occurring cobalt is capable of leaching at concentrations of up to approximately 600 µg/L (approximately 100 times the GWPS).

The maximum concentration of cobalt detected in the vicinity of Ash Landfill No. 1 was 15.4 mg/kg at sample location MWC-8R-30'. This sample had a cobalt SPLP leachate concentration of 588 µg/L. The elevation of this sample is approximately 74 ft NAVD88, which is approximately 82 ft above the top of the MW-104 screen and at the same approximate elevation as the base of Ash Landfill No. 1. The sample depth of 74 ft NAVD88 represents an unsaturated sample that is approximately 69 ft above the water table. Leaching from Ash Landfill No. 1 cannot explain the presence of this elevated cobalt observed in unsaturated soils at the same depth elevation as the base of Ash Landfill No. 1, therefore suggesting an alternate source of cobalt is present at the Site.

Furthermore, the Site cobalt distribution does not represent a release from a localized source. The maximum cobalt leachate concentration of 1,040 µg/L was reported at EXB-02 at an approximate depth of -34 ft NAVD88. The location of this sample suggests that cobalt is not only vertically distributed throughout the native soils, but that it is laterally distributed across the Site.

The observed vertical and lateral profile of cobalt detections and SPLP leaching results suggest that the cobalt observations are not associated with a release from Ash Landfill No. 1 and are instead widespread and naturally-occurring. The results of the cobalt soil investigation demonstrated that cobalt was detected at various locations across the Site, both upgradient and downgradient of Ash Landfill No. 1, and at depth intervals both above and below the screen interval of CCR well MW-104. This lateral and vertical distribution of cobalt at the Site indicates that naturally-occurring cobalt present in the subsurface soils is the source of the SSLs of cobalt in groundwater, and not Ash Landfill No. 1.

4. CONCLUSIONS

This ASD was prepared pursuant to 40 CFR 257.95(g)(3)(ii) and demonstrates the following:

- The total radium concentrations in the CCR groundwater monitoring system at Ash Landfill No. 1 are similar to those documented by LBG-Guyton during their 1998 assessment activities. Naturally-occurring uranium and thorium, which decays to radium, was documented at the Site in the investigation by LBG-Guyton (1998). The naturally-occurring parent radionuclides and subsequent decay to total radium accounts for the periodic GWPS exceedances observed in CCR monitoring wells for Ash Landfill No. 1. Therefore, the data indicate that total radium is leaching into groundwater from naturally-occurring radioactive elements in Site soils, as described by LBG-Guyton (1998) and concurred with by FDEP (1999), causing the SSLs of total radium in groundwater.
- The SSLs of mercury detected in the groundwater at Ash Landfill No. 1 are similar to those documented by Geosyntec during previous assessment activities at this CCR unit. The presence of naturally-occurring mercury observed at the Site and documented in investigations by Geosyntec (2014 and 2017) account for the periodic GWPS exceedance observed in MW-110 for Ash Landfill No. 1. Therefore, the mercury observed in MW-110 is leached into groundwater from naturally-occurring sediment deposits in Site soil, as described by Geosyntec (2014 and 2017) and concurred with by FDEP (2015 and 2017), causing the SSLs of mercury in groundwater.
- The cobalt concentrations in the CCR groundwater monitoring system at Ash Landfill No. 1 indicate the widespread presence of cobalt in subsurface soils across the Site, including background locations and locations downgradient of Ash Landfill No. 1. The presence of naturally-occurring cobalt and its potential to leach into groundwater is documented in this ASD. Therefore, the cobalt observed in MW-104 is leached into groundwater from naturally-occurring cobalt causing the SSLs of cobalt in groundwater.

This ASD documents that the SSLs reported for total radium, mercury and cobalt are from a source other than Ash Landfill No. 1. Accordingly, an assessment of corrective measures or remedial action will not be performed for Ash Landfill No. 1 at this time. Assessment and/or detection monitoring, as applicable, will continue for Ash Landfill No. 1.

5. REFERENCES

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

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

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

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

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

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

United States Environmental Protection Agency (USEPA), November 1993. *USEPA Solid Waste Disposal Facility Criteria Technical Manual.*

TABLES

TABLE 1: COBALT RESULTS FROM HISTORICAL SOIL CORES

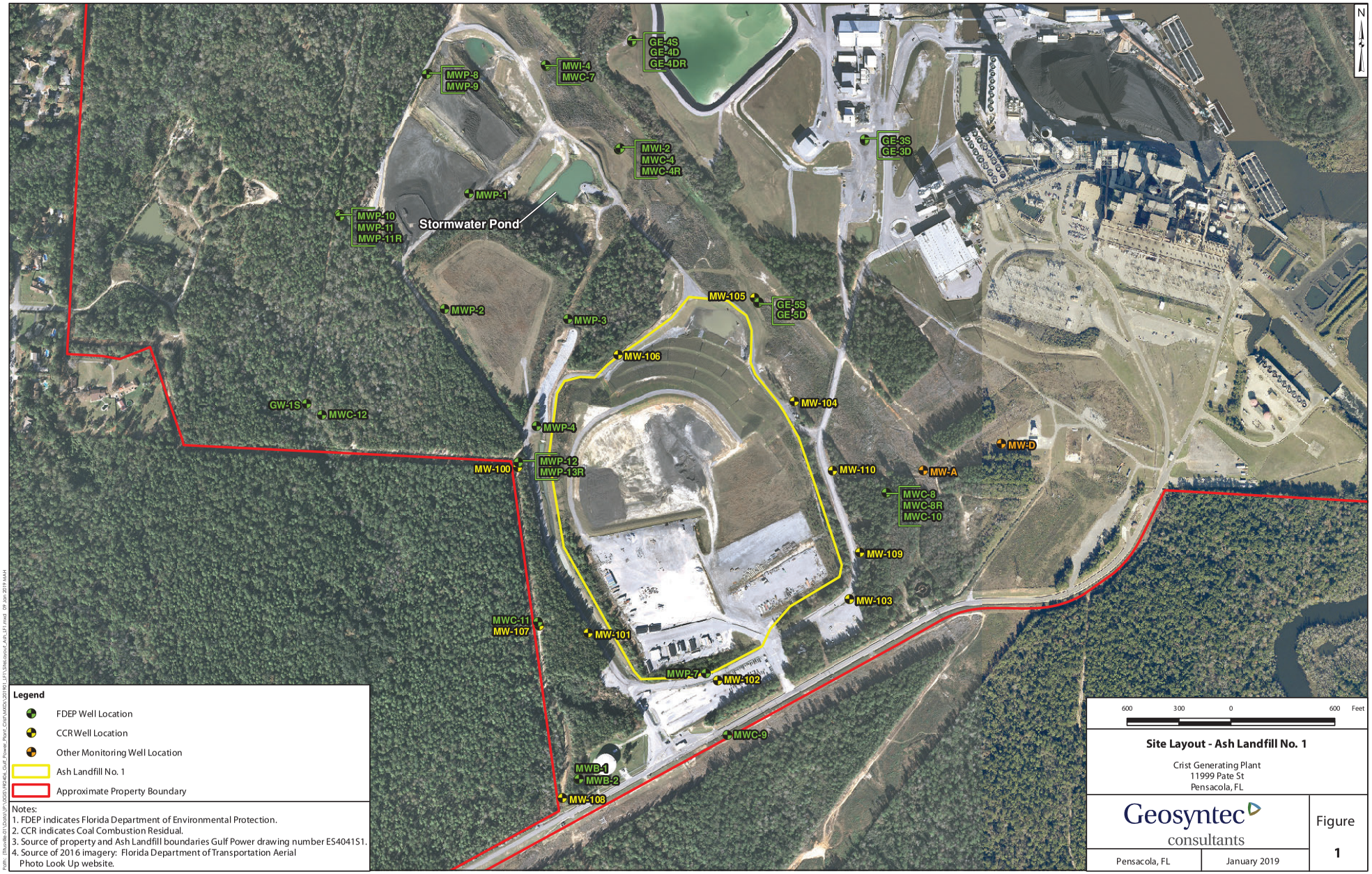
Gulf Power Company, Pensacola, Florida

Sample ID	Sample Elevation (ft NAVD88)	Sample Date	Total Cobalt Content (mg/kg)	Cobalt SPLP (mg/L)
GE-5S/D-25'	4	8/14/2018	0.298 U	---
GE-5S/D-35'	-6	8/14/2018	0.317 U	---
GE-5S/D-38'	-9	8/14/2018	0.314 U	---
GE-5S/D-45'	-16	8/14/2018	0.280 U	---
MWC-5DR-58	-30	8/31/2018	**0.235 I**	0.000400 U
MWC-5DR-77'	-49	8/31/2018	0.0766 U	---
MWC-5DR-94'	-66	8/31/2018	**0.276 I**	0.000400 U
MWC-8R-30'	74	8/31/2018	**15.4**	**0.588**
MWC-8R-42'	62	8/31/2018	**0.208 I**	0.000400 U
MWC-8R-57'	47	8/31/2018	**6.02**	**0.239**
MWC-8R-95'	9	8/14/2018	0.0321 U	---
MWC-8R-102'	2	8/14/2018	0.327 U	---
MWC-8R-112'	-8	8/14/2018	0.291 U	---
MWC-8R-132'	-28	8/14/2018	**3.75**	**0.141**
MW-D-35'	81	8/31/2018	**0.0956 I**	0.000400 U
MW-D-88'	28	8/14/2018	0.307 U	---
MW-D-110'	6	8/14/2018	0.315 U	---
MWP-13R-22	78	8/31/2018	0.0842 U	---
MWP-13R-42	58	8/31/2018	0.0862 U	---
MWP-13R-52	48	8/31/2018	0.0814 U	---
MWP-13R-62'	38	8/14/2018	**0.770 I**	0.00300 U
MWP-13R-72'	28	8/14/2018	0.330 U	---
MWP-13R-102'	-2	8/14/2018	0.350 U	---
MWP-13R-112'	-12	8/14/2018	0.303 U	---
MWP-13R-122'	-22	8/14/2018	0.375 U	---
EXB-02-62'	-24	8/31/2018	0.0778 U	---
EXB-02-72'	-34	8/31/2018	**19.6**	**1.04**
GE-4DR-52'	-36	8/31/2018	**0.135 I**	0.000400 U
MWC-7R-30'	2	8/31/2018	**1.09**	0.000400 U
MWC-7R-62'	-30	8/31/2018	**1.13**	0.000400 U
MW-3D-60'	-30	8/31/2018	**0.190 I**	0.000400 U
MW-4D-48'	-29	8/31/2018	**0.896**	0.000400 U
MWP-11R-45'	20	8/31/2018	**0.0874 I**	0.000400 U
MWP-11R-65'	0	8/31/2018	**0.300 I**	0.000400 U

Notes:

1. The GE-5 location is the same as the MWC-5 location.
2. The MW-3D location is the same as the MWI-1 location.
3. The MW-4D location is the same as the MWI-2 location.
4. ft NAVD88 indicates feet in reference to the North American Vertical Datum of 1988.
5. mg/kg indicates milligrams per kilogram.
6. mg/L indicates milligrams per liter.
7. SPLP indicates Synthetic Precipitation Leaching Procedure.
8. U indicates that the compound was analyzed but not detected.
9. I indicates that the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
10. --- indicates not analyzed.
11. **Detected constituents are shown in bold.**

FIGURES



Legend

- FDEP Well Location
- CCR Well Location
- Other Monitoring Well Location
- Ash Landfill No. 1
- Approximate Property Boundary

Notes:
1. FDEP indicates Florida Department of Environmental Protection.
2. CCR indicates Coal Combustion Residual.
3. Source of property and Ash Landfill boundaries Gulf Power drawing number ES4041S1.
4. Source of 2016 imagery: Florida Department of Transportation Aerial Photo Look Up website.

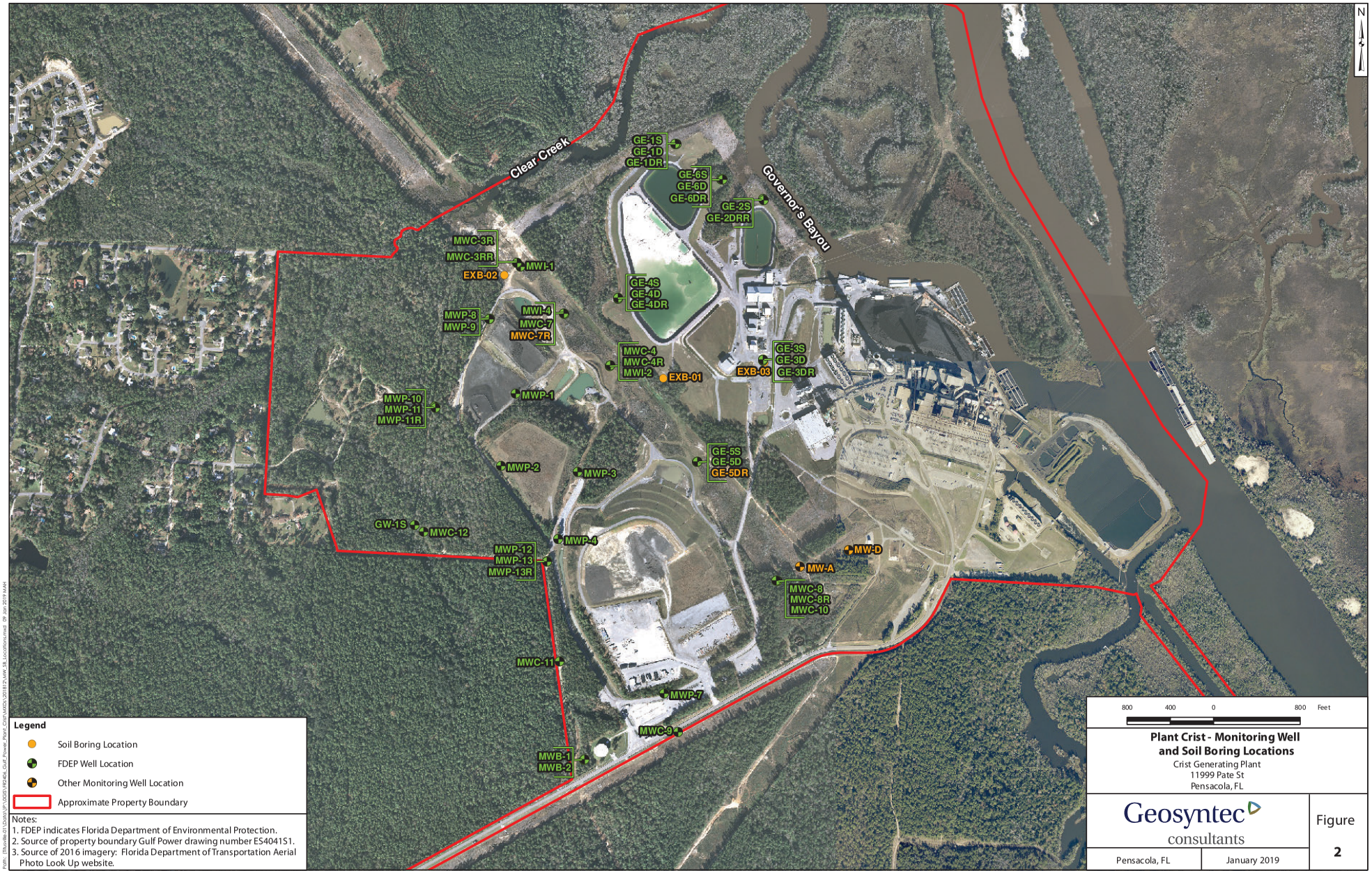
Site Layout - Ash Landfill No. 1

Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 1



Legend

- Soil Boring Location
- FDEP Well Location
- Other Monitoring Well Location
- Approximate Property Boundary

Notes:
1. FDEP indicates Florida Department of Environmental Protection.
2. Source of property boundary Gulf Power drawing number ES4041S1.
3. Source of 2016 imagery: Florida Department of Transportation Aerial Photo Look Up website.

Plant Crist - Monitoring Well and Soil Boring Locations

Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 2

APPENDIX A

Laboratory Analytical Results

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: 400-157728-1
TestAmerica Sample Delivery Group: Cobalt
Client Project/Site: Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
8/17/2018 4:41:28 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 8
Chronicle 9
QC Association 14
QC Sample Results 16
Chain of Custody 17
Receipt Checklists 19
Certification Summary 20

Method Summary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3050B	Preparation, Metals	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-157728-1	GE-5S/D-25'	Solid	08/14/18 11:18	08/14/18 14:23
400-157728-2	GE-5S/D-35'	Solid	08/14/18 11:15	08/14/18 14:23
400-157728-3	GE-5S/D-38'	Solid	08/14/18 11:11	08/14/18 14:23
400-157728-4	GE-5S/D-45'	Solid	08/14/18 11:14	08/14/18 14:23
400-157728-5	MWC-8R-95'	Solid	08/14/18 11:26	08/14/18 14:23
400-157728-6	MWC-8R-102'	Solid	08/14/18 11:28	08/14/18 14:23
400-157728-7	MWC-8R-112'	Solid	08/14/18 11:30	08/14/18 14:23
400-157728-8	MWC-8R-132'	Solid	08/14/18 11:32	08/14/18 14:23
400-157728-9	MW-D-88'	Solid	08/14/18 11:50	08/14/18 14:23
400-157728-10	MW-D-110	Solid	08/14/18 11:46	08/14/18 14:23
400-157728-11	P-13R-62'	Solid	08/14/18 13:16	08/14/18 14:23
400-157728-12	P-13R-72'	Solid	08/14/18 13:18	08/14/18 14:23
400-157728-13	P-13R-102'	Solid	08/14/18 13:20	08/14/18 14:23
400-157728-14	P-13R-112'	Solid	08/14/18 13:23	08/14/18 14:23
400-157728-15	P-13R-122'	Solid	08/14/18 13:22	08/14/18 14:23

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: GE-5S/D-25'
Lab Sample ID: 400-157728-1
Date Collected: 08/14/18 11:18
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 94.2

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.298	U	0.992	0.298	mg/Kg	☼	08/16/18 09:05	08/16/18 15:49	1

Client Sample ID: GE-5S/D-35'
Lab Sample ID: 400-157728-2
Date Collected: 08/14/18 11:15
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 91.6

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.317	U	1.06	0.317	mg/Kg	☼	08/16/18 09:05	08/16/18 16:05	1

Client Sample ID: GE-5S/D-38'
Lab Sample ID: 400-157728-3
Date Collected: 08/14/18 11:11
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 91.2

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.314	U	1.05	0.314	mg/Kg	☼	08/16/18 09:05	08/16/18 16:08	1

Client Sample ID: GE-5S/D-45'
Lab Sample ID: 400-157728-4
Date Collected: 08/14/18 11:14
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 96.9

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.280	U	0.934	0.280	mg/Kg	☼	08/16/18 09:05	08/16/18 16:21	1

Client Sample ID: MWC-8R-95'
Lab Sample ID: 400-157728-5
Date Collected: 08/14/18 11:26
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 858.8

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0321	U	0.107	0.0321	mg/Kg	☼	08/16/18 09:05	08/16/18 16:25	1

Client Sample ID: MWC-8R-102'
Lab Sample ID: 400-157728-6
Date Collected: 08/14/18 11:28
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 89.0

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.327	U	1.09	0.327	mg/Kg	☼	08/16/18 09:05	08/16/18 16:28	1

Client Sample ID: MWC-8R-112'
Lab Sample ID: 400-157728-7
Date Collected: 08/14/18 11:30
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 93.7

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.291	U	0.969	0.291	mg/Kg	☼	08/16/18 09:05	08/16/18 16:31	1

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: MWC-8R-132'
Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:32
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 80.4

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	3.75		1.21	0.363	mg/Kg	☼	08/16/18 09:05	08/16/18 16:35	1

Client Sample ID: MW-D-88'
Lab Sample ID: 400-157728-9
Date Collected: 08/14/18 11:50
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 88.2

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.307	U	1.02	0.307	mg/Kg	☼	08/16/18 09:05	08/16/18 16:38	1

Client Sample ID: MW-D-110
Lab Sample ID: 400-157728-10
Date Collected: 08/14/18 11:46
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 92.1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.315	U	1.05	0.315	mg/Kg	☼	08/16/18 09:05	08/16/18 16:41	1

Client Sample ID: P-13R-62'
Lab Sample ID: 400-157728-11
Date Collected: 08/14/18 13:16
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 80.0

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.770	I	1.15	0.344	mg/Kg	☼	08/16/18 09:05	08/16/18 16:45	1

Client Sample ID: P-13R-72'
Lab Sample ID: 400-157728-12
Date Collected: 08/14/18 13:18
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 84.8

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.330	U	1.10	0.330	mg/Kg	☼	08/16/18 09:05	08/16/18 16:48	1

Client Sample ID: P-13R-102'
Lab Sample ID: 400-157728-13
Date Collected: 08/14/18 13:20
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 85.5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.350	U	1.17	0.350	mg/Kg	☼	08/16/18 09:05	08/16/18 16:51	1

Client Sample ID: P-13R-112'
Lab Sample ID: 400-157728-14
Date Collected: 08/14/18 13:23
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 90.3

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.303	U	1.01	0.303	mg/Kg	☼	08/16/18 09:05	08/16/18 17:04	1

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: P-13R-122'

Date Collected: 08/14/18 13:22
Date Received: 08/14/18 14:23

Lab Sample ID: 400-157728-15

Matrix: Solid
Percent Solids: 77.8

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.375	U	1.25	0.375	mg/Kg	☼	08/16/18 09:05	08/16/18 17:08	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

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.

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: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: GE-5S/D-25'
Lab Sample ID: 400-157728-1
Date Collected: 08/14/18 11:18
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: GE-5S/D-25'
Lab Sample ID: 400-157728-1
Date Collected: 08/14/18 11:18
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 15:49	GESP	TAL PEN

Client Sample ID: GE-5S/D-35'
Lab Sample ID: 400-157728-2
Date Collected: 08/14/18 11:15
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: GE-5S/D-35'
Lab Sample ID: 400-157728-2
Date Collected: 08/14/18 11:15
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:05	GESP	TAL PEN

Client Sample ID: GE-5S/D-38'
Lab Sample ID: 400-157728-3
Date Collected: 08/14/18 11:11
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: GE-5S/D-38'
Lab Sample ID: 400-157728-3
Date Collected: 08/14/18 11:11
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:08	GESP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: GE-5S/D-45'
Lab Sample ID: 400-157728-4
Date Collected: 08/14/18 11:14
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: GE-5S/D-45'
Lab Sample ID: 400-157728-4
Date Collected: 08/14/18 11:14
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:21	GESP	TAL PEN

Client Sample ID: MWC-8R-95'
Lab Sample ID: 400-157728-5
Date Collected: 08/14/18 11:26
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: MWC-8R-95'
Lab Sample ID: 400-157728-5
Date Collected: 08/14/18 11:26
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 858.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:25	GESP	TAL PEN

Client Sample ID: MWC-8R-102'
Lab Sample ID: 400-157728-6
Date Collected: 08/14/18 11:28
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: MWC-8R-102'
Lab Sample ID: 400-157728-6
Date Collected: 08/14/18 11:28
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:28	GESP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: MWC-8R-112'
Lab Sample ID: 400-157728-7
Date Collected: 08/14/18 11:30
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: MWC-8R-112'
Lab Sample ID: 400-157728-7
Date Collected: 08/14/18 11:30
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:31	GESP	TAL PEN

Client Sample ID: MWC-8R-132'
Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:32
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: MWC-8R-132'
Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:32
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:35	GESP	TAL PEN

Client Sample ID: MW-D-88'
Lab Sample ID: 400-157728-9
Date Collected: 08/14/18 11:50
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: MW-D-88'
Lab Sample ID: 400-157728-9
Date Collected: 08/14/18 11:50
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:38	GESP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: MW-D-110 — Lab Sample ID: 400-157728-10

Date Collected: 08/14/18 11:46
Date Received: 08/14/18 14:23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: MW-D-110 — Lab Sample ID: 400-157728-10

Date Collected: 08/14/18 11:46
Date Received: 08/14/18 14:23
Matrix: Solid
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:41	GESP	TAL PEN

Client Sample ID: P-13R-62' — Lab Sample ID: 400-157728-11

Date Collected: 08/14/18 13:16
Date Received: 08/14/18 14:23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: P-13R-62' — Lab Sample ID: 400-157728-11

Date Collected: 08/14/18 13:16
Date Received: 08/14/18 14:23
Matrix: Solid
Percent Solids: 80.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:45	GESP	TAL PEN

Client Sample ID: P-13R-72' — Lab Sample ID: 400-157728-12

Date Collected: 08/14/18 13:18
Date Received: 08/14/18 14:23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: P-13R-72' — Lab Sample ID: 400-157728-12

Date Collected: 08/14/18 13:18
Date Received: 08/14/18 14:23
Matrix: Solid
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:48	GESP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Client Sample ID: P-13R-102'
Lab Sample ID: 400-157728-13
Date Collected: 08/14/18 13:20
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: P-13R-102'
Lab Sample ID: 400-157728-13
Date Collected: 08/14/18 13:20
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:51	GESP	TAL PEN

Client Sample ID: P-13R-112'
Lab Sample ID: 400-157728-14
Date Collected: 08/14/18 13:23
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: P-13R-112'
Lab Sample ID: 400-157728-14
Date Collected: 08/14/18 13:23
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 17:04	GESP	TAL PEN

Client Sample ID: P-13R-122'
Lab Sample ID: 400-157728-15
Date Collected: 08/14/18 13:22
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	408323	08/17/18 09:18	TMP	TAL PEN

Client Sample ID: P-13R-122'
Lab Sample ID: 400-157728-15
Date Collected: 08/14/18 13:22
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 77.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 17:08	GESP	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: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Metals

Prep Batch: 408117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-1	GE-5S/D-25'	Total/NA	Solid	3050B	
400-157728-2	GE-5S/D-35'	Total/NA	Solid	3050B	
400-157728-3	GE-5S/D-38'	Total/NA	Solid	3050B	
400-157728-4	GE-5S/D-45'	Total/NA	Solid	3050B	
400-157728-5	MWC-8R-95'	Total/NA	Solid	3050B	
400-157728-6	MWC-8R-102'	Total/NA	Solid	3050B	
400-157728-7	MWC-8R-112'	Total/NA	Solid	3050B	
400-157728-8	MWC-8R-132'	Total/NA	Solid	3050B	
400-157728-9	MW-D-88'	Total/NA	Solid	3050B	
400-157728-10	MW-D-110	Total/NA	Solid	3050B	
400-157728-11	P-13R-62'	Total/NA	Solid	3050B	
400-157728-12	P-13R-72'	Total/NA	Solid	3050B	
400-157728-13	P-13R-102'	Total/NA	Solid	3050B	
400-157728-14	P-13R-112'	Total/NA	Solid	3050B	
400-157728-15	P-13R-122'	Total/NA	Solid	3050B	
MB 400-408117/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 400-408117/2-A	Lab Control Sample	Total/NA	Solid	3050B	
400-157728-1 MS	GE-5S/D-25'	Total/NA	Solid	3050B	
400-157728-1 MSD	GE-5S/D-25'	Total/NA	Solid	3050B	

Analysis Batch: 408304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-1	GE-5S/D-25'	Total/NA	Solid	6010C	408117
400-157728-2	GE-5S/D-35'	Total/NA	Solid	6010C	408117
400-157728-3	GE-5S/D-38'	Total/NA	Solid	6010C	408117
400-157728-4	GE-5S/D-45'	Total/NA	Solid	6010C	408117
400-157728-5	MWC-8R-95'	Total/NA	Solid	6010C	408117
400-157728-6	MWC-8R-102'	Total/NA	Solid	6010C	408117
400-157728-7	MWC-8R-112'	Total/NA	Solid	6010C	408117
400-157728-8	MWC-8R-132'	Total/NA	Solid	6010C	408117
400-157728-9	MW-D-88'	Total/NA	Solid	6010C	408117
400-157728-10	MW-D-110	Total/NA	Solid	6010C	408117
400-157728-11	P-13R-62'	Total/NA	Solid	6010C	408117
400-157728-12	P-13R-72'	Total/NA	Solid	6010C	408117
400-157728-13	P-13R-102'	Total/NA	Solid	6010C	408117
400-157728-14	P-13R-112'	Total/NA	Solid	6010C	408117
400-157728-15	P-13R-122'	Total/NA	Solid	6010C	408117
MB 400-408117/1-A	Method Blank	Total/NA	Solid	6010C	408117
LCS 400-408117/2-A	Lab Control Sample	Total/NA	Solid	6010C	408117
400-157728-1 MS	GE-5S/D-25'	Total/NA	Solid	6010C	408117
400-157728-1 MSD	GE-5S/D-25'	Total/NA	Solid	6010C	408117

General Chemistry

Analysis Batch: 408323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-1	GE-5S/D-25'	Total/NA	Solid	Moisture	
400-157728-2	GE-5S/D-35'	Total/NA	Solid	Moisture	
400-157728-3	GE-5S/D-38'	Total/NA	Solid	Moisture	
400-157728-4	GE-5S/D-45'	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 408323 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-5	MWC-8R-95'	Total/NA	Solid	Moisture	
400-157728-6	MWC-8R-102'	Total/NA	Solid	Moisture	
400-157728-7	MWC-8R-112'	Total/NA	Solid	Moisture	
400-157728-8	MWC-8R-132'	Total/NA	Solid	Moisture	
400-157728-9	MW-D-88'	Total/NA	Solid	Moisture	
400-157728-10	MW-D-110	Total/NA	Solid	Moisture	
400-157728-11	P-13R-62'	Total/NA	Solid	Moisture	
400-157728-12	P-13R-72'	Total/NA	Solid	Moisture	
400-157728-13	P-13R-102'	Total/NA	Solid	Moisture	
400-157728-14	P-13R-112'	Total/NA	Solid	Moisture	
400-157728-15	P-13R-122'	Total/NA	Solid	Moisture	
400-157728-1 DU	GE-5S/D-25'	Total/NA	Solid	Moisture	

QC Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 400-408117/1-A
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 408117

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.298	U	0.994	0.298	mg/Kg		08/16/18 09:05	08/16/18 15:42	1

Lab Sample ID: LCS 400-408117/2-A
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 408117

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt			99.5	100.4		mg/Kg		101	80 - 120		

Lab Sample ID: 400-157728-1 MS
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: GE-5S/D-25'
Prep Type: Total/NA
Prep Batch: 408117

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt	0.298	U	101	97.90		mg/Kg	☼	97	75 - 125		

Lab Sample ID: 400-157728-1 MSD
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: GE-5S/D-25'
Prep Type: Total/NA
Prep Batch: 408117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.298	U	99.8	97.36		mg/Kg	☼	98	75 - 125	1	20

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: J. JOHNSON	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-76466-29903.1
Client Contact: Kristi Mitchell	Phone: 850-483-5100	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 3
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days): STANDARD			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: Colbalt	Project #: 40000612			
Site: PLANT CRIST	SSOW#:			

Analysis Requested

400-157728 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)	6010C - SPLP Colbalt	6010C - Colbalt	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
GE-5S/D-25'	8/14/18	11:18	C	Solid			X	X		HOLD SPLP PENDING TOTAL Co RESULTS
GE-5S/D-35'		11:15	C	Solid			X	X		
GE-5S/D-38'		11:11	C	Solid			X	X		
GE-5S/D-45'		11:14	C	Solid			X	X		
MWC-8R-95'		11:26	C	Solid			X	X		
MWC-8R-102'		11:28	C	Solid			X	X		
MWC-8R-112'		11:30	C	Solid			X	X		
MWC-8R-132'		11:32	C	Solid			X	X		
MW-D-88'		11:50	C	Solid			X	X		
MW-D-110'		11:46	C	Solid			X	X		
				Solid						

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
M. Zdat	8/14/2018 14:23	GCO		8/14/18 1423	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company: JAPEN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 24.2°C IR8

Ver: 08/04/2016

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: J. JOHNSON	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-76466-29903.2
Client Contact: Kristi Mitchell	Phone: 850-483-5100	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 2 of 3
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days): STANDARD			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: Colbalt	Project #: 40000612			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C - SPLP Colbalt	6010C - Colbalt	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
P-13R-62'	8/14/18	13:16		Solid			X	X		HOLD SPLP
P-13R-72'		13:18		Solid			X	X		ANALYSES
P-13R-102'		13:20		Solid			X	X		PENDING TOTAL
P-13R-112'		13:23		Solid			X	X		CO RESULTS
P-13R-122'		13:22		Solid			X	X		
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						

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
M. Johnson	8/14/2018 14:23	GPC		8/14/18 1423	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 24.2°C	Company TAPEN

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 24.2°C IR8

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-157728-1
SDG Number: Cobalt

Login Number: 157728
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.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.2°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-1
SDG: Cobalt

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	07-31-19
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.

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: 400-157728-2
TestAmerica SDG: SPLP Cobalt & Molybdenum
Client Project/Site: Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
8/28/2018 7:06:54 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Method Summary 3
Sample Summary 4
Client Sample Results 5
Definitions 6
Chronicle 7
QC Association 8
QC Sample Results 9
Chain of Custody 10
Receipt Checklists 12
Certification Summary 13

Method Summary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL PEN
1312	SPLP Extraction	SW846	TAL PEN
3010A	Preparation, Total Metals	SW846	TAL PEN

Protocol References:

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: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-157728-8	MWC-8R-132'	Solid	08/14/18 11:32	08/14/18 14:23
400-157728-11	P-13R-62'	Solid	08/14/18 13:16	08/14/18 14:23

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Client Sample ID: MWC-8R-132'

Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:32
Matrix: Solid
Date Received: 08/14/18 14:23

Method: 6010C - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.141		0.0100	0.00300	mg/L		08/26/18 07:32	08/26/18 14:48	1
Molybdenum	0.00200	U	0.0100	0.00200	mg/L		08/26/18 07:32	08/26/18 14:48	1

Client Sample ID: P-13R-62'

Lab Sample ID: 400-157728-11
Date Collected: 08/14/18 13:16
Matrix: Solid
Date Received: 08/14/18 14:23

Method: 6010C - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00300	U	0.0100	0.00300	mg/L		08/26/18 07:32	08/26/18 14:22	1
Molybdenum	0.00200	U	0.0100	0.00200	mg/L		08/26/18 07:32	08/26/18 14:22	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

Glossary

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

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Client Sample ID: MWC-8R-132'

Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:32
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			409043	08/23/18 14:50	SLB	TAL PEN
SPLP East	Prep	3010A			409265	08/26/18 07:32	CWF	TAL PEN
SPLP East	Analysis	6010C		1	409313	08/26/18 14:48	GESP	TAL PEN

Client Sample ID: P-13R-62'

Lab Sample ID: 400-157728-11
Date Collected: 08/14/18 13:16
Matrix: Solid
Date Received: 08/14/18 14:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			409043	08/23/18 14:50	SLB	TAL PEN
SPLP East	Prep	3010A			409265	08/26/18 07:32	CWF	TAL PEN
SPLP East	Analysis	6010C		1	409313	08/26/18 14:22	GESP	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: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Metals

Leach Batch: 409043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-8	MWC-8R-132'	SPLP East	Solid	1312	
400-157728-11	P-13R-62'	SPLP East	Solid	1312	
LB 400-409043/1-D	Method Blank	SPLP East	Solid	1312	
400-157728-11 MS	P-13R-62'	SPLP East	Solid	1312	
400-157728-11 MSD	P-13R-62'	SPLP East	Solid	1312	

Prep Batch: 409265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-8	MWC-8R-132'	SPLP East	Solid	3010A	409043
400-157728-11	P-13R-62'	SPLP East	Solid	3010A	409043
LB 400-409043/1-D	Method Blank	SPLP East	Solid	3010A	409043
LCS 400-409265/2-A	Lab Control Sample	Total/NA	Solid	3010A	
400-157728-11 MS	P-13R-62'	SPLP East	Solid	3010A	409043
400-157728-11 MSD	P-13R-62'	SPLP East	Solid	3010A	409043

Analysis Batch: 409313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-8	MWC-8R-132'	SPLP East	Solid	6010C	409265
400-157728-11	P-13R-62'	SPLP East	Solid	6010C	409265
LB 400-409043/1-D	Method Blank	SPLP East	Solid	6010C	409265
LCS 400-409265/2-A	Lab Control Sample	Total/NA	Solid	6010C	409265
400-157728-11 MS	P-13R-62'	SPLP East	Solid	6010C	409265
400-157728-11 MSD	P-13R-62'	SPLP East	Solid	6010C	409265

QC Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Method: 6010C - Metals (ICP)

Lab Sample ID: LCS 400-409265/2-A
Matrix: Solid
Analysis Batch: 409313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	1.00	0.9812		mg/L		98	80 - 120
Molybdenum	1.00	1.061		mg/L		106	80 - 120

Lab Sample ID: LB 400-409043/1-D
Matrix: Solid
Analysis Batch: 409313

Client Sample ID: Method Blank
Prep Type: SPLP East
Prep Batch: 409265

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00300	U	0.0100	0.00300	mg/L		08/26/18 07:32	08/26/18 14:15	1
Molybdenum	0.00200	U	0.0100	0.00200	mg/L		08/26/18 07:32	08/26/18 14:15	1

Lab Sample ID: 400-157728-11 MS
Matrix: Solid
Analysis Batch: 409313

Client Sample ID: P-13R-62'
Prep Type: SPLP East
Prep Batch: 409265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00300	U	1.00	0.9587		mg/L		96	75 - 125
Molybdenum	0.00200	U	1.00	1.028		mg/L		103	75 - 125

Lab Sample ID: 400-157728-11 MSD
Matrix: Solid
Analysis Batch: 409313

Client Sample ID: P-13R-62'
Prep Type: SPLP East
Prep Batch: 409265

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.00300	U	1.00	0.9896		mg/L		99	75 - 125	3	20
Molybdenum	0.00200	U	1.00	1.057		mg/L		106	75 - 125	3	20

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: J. JOHNSON	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-76466-29903.1
Client Contact: Kristi Mitchell	Phone: 850-483-5100	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 1 of 3
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days): STANDARD			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: Colbalt	Project #: 40000612			
Site: PLANT CRIST	SSOW#:			

Analysis Requested

400-157728 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)	6010C - SPLP Colbalt	6010C - Colbalt	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
GE-5S/D-25'	8/14/18	11:18	C	Solid			X	X		HOLD SPLP PENDING TOTAL Co RESULTS
GE-5S/D-35'		11:15	C	Solid			X	X		
GE-5S/D-38'		11:11	C	Solid			X	X		
GE-5S/D-45'		11:14	C	Solid			X	X		
MWC-8R-95'		11:26	C	Solid			X	X		
MWC-8R-102'		11:28	C	Solid			X	X		
MWC-8R-112'		11:30	C	Solid			X	X		
MWC-8R-132'		11:32	C	Solid			X	X		
MW-D-88'		11:50	C	Solid			X	X		
MW-D-110'		11:46	C	Solid			X	X		
				Solid						

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
M. Zdat	8/14/2018 14:23	GCO		8/14/18 1423	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company: JAPEN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 24.2°C IR8

Ver: 08/04/2016

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: J. JOHNSON	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-76466-29903.2
Client Contact: Kristi Mitchell	Phone: 850-483-5100	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page 2 of 3
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days): STANDARD			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: Colbalt	Project #: 40000612			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C - SPLP Colbalt	6010C - Colbalt	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
P-13R-62'	8/14/18	13:16		Solid			X	X		HOLD SPLP
P-13R-72'		13:18		Solid			X	X		ANALYSES
P-13R-102'		13:20		Solid			X	X		PENDING TOTAL
P-13R-112'		13:23		Solid			X	X		CO RESULTS
P-13R-122'		13:22		Solid			X	X		
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						
				Solid						

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
M. Johnson	8/14/2018 14:23	GEO		8/14/18 1423	
				24.2°C	TAPEN

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 24.2°C IR8

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-157728-2
SDG Number: SPLP Cobalt & Molybdenum

Login Number: 157728
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.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.2°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-2
SDG: SPLP Cobalt & Molybdenum

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18 *
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
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	07-31-19
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.

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: 400-157728-3
TestAmerica Sample Delivery Group: Molybdenum
Client Project/Site: Plant Crist

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

Attn: Kristi Mitchell

Authorized for release by:
8/23/2018 4:50:02 PM

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
Method Summary 3
Sample Summary 4
Client Sample Results 5
Definitions 8
Chronicle 9
QC Association 12
QC Sample Results 13
Receipt Checklists 14
Certification Summary 15

Method Summary

Method	Method Description	Protocol	Laboratory
) 010I	/ etans LII wE	j (84)	TANw3B
C050,	wreyaratioG= / etans	j (84)	TANw3B

Protocol References:

j (84) UvTest / etgoWs " or 3 hanf atiGd j oniW(aste=wgSsicanM gemican/ etgoWsv=TgirW3WitioG=Bohember 1F8) AGWlts 9 yWates.

Laboratory References:

TANw3B UTestAmerica weGsacora=CC55 / cNemore Drihe=weGsacora=" NC2514=T3NL850E474-1001

Sample Summary

lrieGt: u f nPwop er l omyaGS
wro'ectd lite: wraGt l rist

TestAmerica Job ID: 400-157728-C
j Du : / onSbEeGf m

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-157728-1	u 3-5j oD-25M	j oriE	08d14d18 11:18	08d14d18 14:2C
400-157728-2	u 3-5j oD-C5M	j oriE	08d14d18 11:15	08d14d18 14:2C
400-157728-C	u 3-5j oD-C8M	j oriE	08d14d18 11:11	08d14d18 14:2C
400-157728-4	u 3-5j oD-45M	j oriE	08d14d18 11:14	08d14d18 14:2C
400-157728-5	/ WI -8R-95M	j oriE	08d14d18 11:26	08d14d18 14:2C
400-157728-6	/ WI -8R-102M	j oriE	08d14d18 11:28	08d14d18 14:2C
400-157728-7	/ WI -8R-112M	j oriE	08d14d18 11:C0	08d14d18 14:2C
400-157728-8	/ WI -8R-1C2M	j oriE	08d14d18 11:C2	08d14d18 14:2C
400-157728-9	/ W-D-88M	j oriE	08d14d18 11:50	08d14d18 14:2C
400-157728-10	/ W-D-110	j oriE	08d14d18 11:46	08d14d18 14:2C
400-157728-11	w-1CR-62M	j oriE	08d14d18 1C:16	08d14d18 14:2C
400-157728-12	w-1CR-72M	j oriE	08d14d18 1C:18	08d14d18 14:2C
400-157728-1C	w-1CR-102M	j oriE	08d14d18 1C:20	08d14d18 14:2C
400-157728-14	w-1CR-112M	j oriE	08d14d18 1C:2C	08d14d18 14:2C
400-157728-15	w-1CR-122M	j oriE	08d14d18 1C:22	08d14d18 14:2C

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Client Sample ID: GE-5S/D-25'
Lab Sample ID: 400-157728-1
Date Collected: 08/14/18 11:18
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 94.2

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.484	I	0.992	0.198	mg/Kg	☼	08/16/18 09:05	08/16/18 15:49	1

Client Sample ID: GE-5S/D-35'
Lab Sample ID: 400-157728-2
Date Collected: 08/14/18 11:15
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 91.6

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
Molybdenum	0.211	U	1.06	0.211	mg/Kg	☼	08/16/18 09:05	08/16/18 16:05	1

Client Sample ID: GE-5S/D-38'
Lab Sample ID: 400-157728-3
Date Collected: 08/14/18 11:11
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 91.2

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.327	I	1.05	0.210	mg/Kg	☼	08/16/18 09:05	08/16/18 16:08	1

Client Sample ID: GE-5S/D-45'
Lab Sample ID: 400-157728-4
Date Collected: 08/14/18 11:14
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 96.9

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.257	I	0.934	0.187	mg/Kg	☼	08/16/18 09:05	08/16/18 16:21	1

Client Sample ID: MWC-8R-95'
Lab Sample ID: 400-157728-5
Date Collected: 08/14/18 11:26
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 858.8

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.0395	I	0.107	0.0214	mg/Kg	☼	08/16/18 09:05	08/16/18 16:25	1

Client Sample ID: MWC-8R-102'
Lab Sample ID: 400-157728-6
Date Collected: 08/14/18 11:28
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 89.0

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.291	I	1.09	0.218	mg/Kg	☼	08/16/18 09:05	08/16/18 16:28	1

Client Sample ID: MWC-8R-112'
Lab Sample ID: 400-157728-7
Date Collected: 08/14/18 11:30
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 93.7

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
Molybdenum	0.194	U	0.969	0.194	mg/Kg	☼	08/16/18 09:05	08/16/18 16:31	1

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Client Sample ID: MWC-8R-132'
Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:32
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 80.4

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.836	I	1.21	0.242	mg/Kg	☼	08/16/18 09:05	08/16/18 16:35	1

Client Sample ID: MW-D-88'
Lab Sample ID: 400-157728-9
Date Collected: 08/14/18 11:50
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 88.2

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.232	I	1.02	0.205	mg/Kg	☼	08/16/18 09:05	08/16/18 16:38	1

Client Sample ID: MW-D-110
Lab Sample ID: 400-157728-10
Date Collected: 08/14/18 11:46
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 92.1

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
Molybdenum	0.210	U	1.05	0.210	mg/Kg	☼	08/16/18 09:05	08/16/18 16:41	1

Client Sample ID: P-13R-62'
Lab Sample ID: 400-157728-11
Date Collected: 08/14/18 13:16
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 80.0

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
Molybdenum	0.229	U	1.15	0.229	mg/Kg	☼	08/16/18 09:05	08/16/18 16:45	1

Client Sample ID: P-13R-72'
Lab Sample ID: 400-157728-12
Date Collected: 08/14/18 13:18
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 84.8

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.455	I	1.10	0.220	mg/Kg	☼	08/16/18 09:05	08/16/18 16:48	1

Client Sample ID: P-13R-102'
Lab Sample ID: 400-157728-13
Date Collected: 08/14/18 13:20
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 85.5

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
Molybdenum	0.233	U	1.17	0.233	mg/Kg	☼	08/16/18 09:05	08/16/18 16:51	1

Client Sample ID: P-13R-112'
Lab Sample ID: 400-157728-14
Date Collected: 08/14/18 13:23
Matrix: Solid
Date Received: 08/14/18 14:23
Percent Solids: 90.3

Method: 6010C - Metals (ICP)

y nalAte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	y nalAzed	Dil Fac
MolAbdenum	0.346	I	1.01	0.202	mg/Kg	☼	08/16/18 09:05	08/16/18 17:04	1

Client Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Client Sample ID: P-13R-122'

Date Collected: 08/14/18 13:22
Date Received: 08/14/18 14:23

Lab Sample ID: 400-157728-15

Matrix: Solid
Percent Solids: 77.8

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.668	I	1.25	0.250	mg/Kg	☼	08/16/18 09:05	08/16/18 17:08	1

Definitions/Glossary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Qualifiers

Metals

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

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: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Client Sample ID: GE-5S/D-25'
Lab Sample ID: 400-157728-1

Date Collected: 08/14/18 11:18
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 34T2

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 15:49	GESP	TAL PEN

Client Sample ID: GE-5S/D-P5'
Lab Sample ID: 400-157728-2

Date Collected: 08/14/18 11:15
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 31T6

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:05	GESP	TAL PEN

Client Sample ID: GE-5S/D-P8'
Lab Sample ID: 400-157728-P

Date Collected: 08/14/18 11:11
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 31T2

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:08	GESP	TAL PEN

Client Sample ID: GE-5S/D-45'
Lab Sample ID: 400-157728-4

Date Collected: 08/14/18 11:14
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 36T3

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:21	GESP	TAL PEN

Client Sample ID: MWC-8y -35'
Lab Sample ID: 400-157728-5

Date Collected: 08/14/18 11:26
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 858T8

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:25	GESP	TAL PEN

Client Sample ID: MWC-8y -102'
Lab Sample ID: 400-157728-6

Date Collected: 08/14/18 11:28
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 83T0

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:28	GESP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Client Sample ID: MWC-8y -112'
Lab Sample ID: 400-157728-7
Date Collected: 08/14/18 11:P0
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 3PT7

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:31	GESP	TAL PEN

Client Sample ID: MWC-8y -1P2'
Lab Sample ID: 400-157728-8
Date Collected: 08/14/18 11:P2
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 80T4

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:35	GESP	TAL PEN

Client Sample ID: MW-D-88'
Lab Sample ID: 400-157728-3
Date Collected: 08/14/18 11:50
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 88T2

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:38	GESP	TAL PEN

Client Sample ID: MW-D-110
Lab Sample ID: 400-157728-10
Date Collected: 08/14/18 11:46
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 32T1

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:41	GESP	TAL PEN

Client Sample ID: R-1Py -62'
Lab Sample ID: 400-157728-11
Date Collected: 08/14/18 1P:16
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 80T0

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:45	GESP	TAL PEN

Client Sample ID: R-1Py -72'
Lab Sample ID: 400-157728-12
Date Collected: 08/14/18 1P:18
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 84T8

Rrep Aspe	uatch Aspe	uatch Method	y Nn	DilNtion . actor	uatch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:48	GESP	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Client Sample ID: R-1Py -102'

Lab Sample ID: 400-157728-1P

Date Collected: 08/14/18 1P:20
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 85T5

Rrep Aspe	u atch Aspe	u atch Method	y Nn	DilNtion . actor	u atch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 16:51	GESP	TAL PEN

Client Sample ID: R-1Py -112'

Lab Sample ID: 400-157728-14

Date Collected: 08/14/18 1P:2P
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 30TP

Rrep Aspe	u atch Aspe	u atch Method	y Nn	DilNtion . actor	u atch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 17:04	GESP	TAL PEN

Client Sample ID: R-1Py -122'

Lab Sample ID: 400-157728-15

Date Collected: 08/14/18 1P:22
Matrix: Solid
Date y eceiBed: 08/14/18 14:2P
Rercent Solidv: 77T8

Rrep Aspe	u atch Aspe	u atch Method	y Nn	DilNtion . actor	u atch 9 Nmber	Rrepared or z nalsFed	z nalsvt	Lab
Total/NA	Prep	3050B			408117	08/16/18 09:05	KWN	TAL PEN
Total/NA	Analysis	6010C		1	408304	08/16/18 17:08	GESP	TAL PEN

Laborators y eferencev:

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

QC Association Summary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Metals

Prep Batch: 408117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-1	GE-5S/D-25'	Total/NA	Solid	3050B	
400-157728-2	GE-5S/D-35'	Total/NA	Solid	3050B	
400-157728-3	GE-5S/D-38'	Total/NA	Solid	3050B	
400-157728-4	GE-5S/D-45'	Total/NA	Solid	3050B	
400-157728-5	MWC-8R-95'	Total/NA	Solid	3050B	
400-157728-6	MWC-8R-102'	Total/NA	Solid	3050B	
400-157728-7	MWC-8R-112'	Total/NA	Solid	3050B	
400-157728-8	MWC-8R-132'	Total/NA	Solid	3050B	
400-157728-9	MW-D-88'	Total/NA	Solid	3050B	
400-157728-10	MW-D-110	Total/NA	Solid	3050B	
400-157728-11	P-13R-62'	Total/NA	Solid	3050B	
400-157728-12	P-13R-72'	Total/NA	Solid	3050B	
400-157728-13	P-13R-102'	Total/NA	Solid	3050B	
400-157728-14	P-13R-112'	Total/NA	Solid	3050B	
400-157728-15	P-13R-122'	Total/NA	Solid	3050B	
MB 400-408117/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 400-408117/2-A	Lab Control Sample	Total/NA	Solid	3050B	
400-157728-1 MS	GE-5S/D-25'	Total/NA	Solid	3050B	
400-157728-1 MSD	GE-5S/D-25'	Total/NA	Solid	3050B	

Analysis Batch: 408304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-157728-1	GE-5S/D-25'	Total/NA	Solid	6010C	408117
400-157728-2	GE-5S/D-35'	Total/NA	Solid	6010C	408117
400-157728-3	GE-5S/D-38'	Total/NA	Solid	6010C	408117
400-157728-4	GE-5S/D-45'	Total/NA	Solid	6010C	408117
400-157728-5	MWC-8R-95'	Total/NA	Solid	6010C	408117
400-157728-6	MWC-8R-102'	Total/NA	Solid	6010C	408117
400-157728-7	MWC-8R-112'	Total/NA	Solid	6010C	408117
400-157728-8	MWC-8R-132'	Total/NA	Solid	6010C	408117
400-157728-9	MW-D-88'	Total/NA	Solid	6010C	408117
400-157728-10	MW-D-110	Total/NA	Solid	6010C	408117
400-157728-11	P-13R-62'	Total/NA	Solid	6010C	408117
400-157728-12	P-13R-72'	Total/NA	Solid	6010C	408117
400-157728-13	P-13R-102'	Total/NA	Solid	6010C	408117
400-157728-14	P-13R-112'	Total/NA	Solid	6010C	408117
400-157728-15	P-13R-122'	Total/NA	Solid	6010C	408117
MB 400-408117/1-A	Method Blank	Total/NA	Solid	6010C	408117
LCS 400-408117/2-A	Lab Control Sample	Total/NA	Solid	6010C	408117
400-157728-1 MS	GE-5S/D-25'	Total/NA	Solid	6010C	408117
400-157728-1 MSD	GE-5S/D-25'	Total/NA	Solid	6010C	408117

QC Sample Results

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 400-408117/1-A
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 408117

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.199	g	0.994	0.199	mK/6K		08/1U/18 09:05	08/1U/18 15:42	1

Lab Sample ID: LCS 400-408117/2-A
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 408117

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Molybdenum			99.5	111.8		mK/6K		112	80 - 120		

Lab Sample ID: 400-157728-1 MS
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: GE-5S/D-25'
Prep Type: Total/NA
Prep Batch: 408117

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Molybdenum	0.484	I	101	102.0		mK/6K	☼	101	75 - 125		

Lab Sample ID: 400-157728-1 MSD
Matrix: Solid
Analysis Batch: 408304

Client Sample ID: GE-5S/D-25'
Prep Type: Total/NA
Prep Batch: 408117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.484	I	99.8	100.7		mK/6K	☼	100	75 - 125	1	20

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-157728-3
SDG Number: Molybdenum

Login Number: 157728
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.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.2°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Gulf Power Company
Pro/ectSl ite: Plant Crist

TestAmerica Job ID: 400-157728-j
dDG: h olyb. enum

Laboratory: TestAmerica Pensacola

All accre. itationsSertifications Nel. by tNs laboratory are liste. g 6 ot all accre. itationsSertifications are applicable to tNs reportg

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	dtate Pro3ram	4	40150	09-j 0-1B
A6 AO	IdE SLC 17025		z2471	02-22-20
AriZona	dtate Pro3ram	B	Ak0710	01-12-1B
ArQansas DLF	dtate Pro3ram	9	88-098B	0B-01-18
California	dtate Pro3ram	B	2510	09-j 0-1B
(lori. a	6 LzAP	4	L81010	09-j 0-1B
Geor3ia	dtate Pro3ram	4	L81010)(z*	09-j 0-1B
Illinois	6 LzAP	5	200041	10-0B-18
Iowa	dtate Pro3ram	7	j 97	08-01-18 K
Uansas	6 LzAP	7	L-1025j	10-j 1-18
UentucQy)WdT*	dtate Pro3ram	4	5j	09-j 0-1B
UentucQy)MM*	dtate Pro3ram	4	B80j 0	12-j 1-18
zouisiana	6 LzAP	9	j 0B79	09-j 0-1B
zouisiana)DM*	6 LzAP	9	zA170005	12-j 1-18
h arylan.	dtate Pro3ram	j	2j j	0B-j 0-1B
h assacNusetts	dtate Pro3ram	1	h -(z0B4	09-j 0-1B
h icNi3an	dtate Pro3ram	5	BB12	09-j 0-1B
6 ew Jersey	6 LzAP	2	(z009	09-j 0-1B
6 ortN Carolina)MMSlM*	dtate Pro3ram	4	j 14	12-j 1-18
EQaNoma	dtate Pro3ram	9	B810	08-j 1-18
Pennsylvania	6 LzAP	j	98-00497	01-j 1-1B
RNo. e Islan.	dtate Pro3ram	1	zAE00j 07	12-j 0-18
doutN Carolina	dtate Pro3ram	4	B9029	09-j 0-18 K
Tennessee	dtate Pro3ram	4	T602B07	09-j 0-1B
Texas	6 LzAP	9	T104704289-18-14	0B-j 0-18
Wd (isN & Mil. life	(e. eral		zL058448-0	07-j 1-1B
WdDA	(e. eral		Pj j 0-18-00148	05-17-21
Vir3inia	6 LzAP	j	490199	09-14-1B
MasNin3ton	dtate Pro3ram	10	CB15	05-15-1B
Mest Vir3inia DLP	dtate Pro3ram	j	1j 9	09-j 0-1B

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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: 400-158570-1
Client Project/Site: Cobalt & Molybdenum

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

Attn: Kristi Mitchell

Authorized for release by:
9/6/2018 4:42:21 PM

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

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
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 10
Chronicle 11
QC Association 18
QC Sample Results 20
Chain of Custody 21
Receipt Checklists 23
Certification Summary 24

Case Narrative

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Job ID: 400-158570-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-158570-1

Metals
Method(s) 6020: The post digestion spike % recovery for Cobalt associated with batch 410547 was outside of control limits.

Method Summary

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3050B	Preparation, Metals	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

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: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-158570-1	MW-D-35	Solid	08/31/18 10:30	08/31/18 12:55
400-158570-2	MWC-8R-30	Solid	08/31/18 10:40	08/31/18 12:55
400-158570-3	MWC-8R-42	Solid	08/31/18 10:45	08/31/18 12:55
400-158570-4	MWC-8R-57	Solid	08/31/18 10:48	08/31/18 12:55
400-158570-5	MWC-5DR-58	Solid	08/31/18 10:56	08/31/18 12:55
400-158570-6	MWC-5DR-77	Solid	08/31/18 11:02	08/31/18 12:55
400-158570-7	MWC-5DR-94	Solid	08/31/18 11:08	08/31/18 12:55
400-158570-8	MWP-13R-22	Solid	08/31/18 11:12	08/31/18 12:55
400-158570-9	MWP-13R-42	Solid	08/31/18 11:15	08/31/18 12:55
400-158570-10	MWP-13R-52	Solid	08/31/18 11:16	08/31/18 12:55
400-158570-11	MWP-11R-45	Solid	08/31/18 11:23	08/31/18 12:55
400-158570-12	MWP-11R-65	Solid	08/31/18 11:30	08/31/18 12:55
400-158570-13	EXB-02-62	Solid	08/31/18 11:36	08/31/18 12:55
400-158570-14	EXB-02-72	Solid	08/31/18 11:37	08/31/18 12:55
400-158570-15	MW-3D(MWI-1)-60	Solid	08/31/18 11:45	08/31/18 12:55
400-158570-16	MW-4D(MWI-2)-48	Solid	08/31/18 11:53	08/31/18 12:55
400-158570-17	MWC-7R-30	Solid	08/31/18 12:00	08/31/18 12:55
400-158570-18	MWC-7R-62	Solid	08/31/18 12:03	08/31/18 12:55
400-158570-19	GE-4DR-52	Solid	08/31/18 12:08	08/31/18 12:55

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MW-D-35
Lab Sample ID: 400-158570-1
Date Collected: 08/31/18 10:30
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 90.2

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0956	I	0.543	0.0825	mg/Kg	☼	09/04/18 13:28	09/05/18 17:26	10
Molybdenum	0.434	U	3.26	0.434	mg/Kg	☼	09/04/18 13:28	09/05/18 17:26	10

Client Sample ID: MWC-8R-30
Lab Sample ID: 400-158570-2
Date Collected: 08/31/18 10:40
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 85.8

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	15.4		0.541	0.0822	mg/Kg	☼	09/04/18 13:28	09/05/18 17:49	10
Molybdenum	3.06	I	3.25	0.433	mg/Kg	☼	09/04/18 13:28	09/05/18 17:49	10

Client Sample ID: MWC-8R-42
Lab Sample ID: 400-158570-3
Date Collected: 08/31/18 10:45
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 95.8

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.208	I	0.487	0.0740	mg/Kg	☼	09/04/18 13:28	09/05/18 18:16	10
Molybdenum	2.09	I	2.92	0.389	mg/Kg	☼	09/04/18 13:28	09/05/18 18:16	10

Client Sample ID: MWC-8R-57
Lab Sample ID: 400-158570-4
Date Collected: 08/31/18 10:48
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 97.3

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	6.02		0.528	0.0803	mg/Kg	☼	09/04/18 13:28	09/05/18 18:20	10
Molybdenum	0.977	I	3.17	0.422	mg/Kg	☼	09/04/18 13:28	09/05/18 18:20	10

Client Sample ID: MWC-5DR-58
Lab Sample ID: 400-158570-5
Date Collected: 08/31/18 10:56
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 98.6

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.235	I	0.515	0.0783	mg/Kg	☼	09/04/18 13:28	09/05/18 18:25	10
Molybdenum	2.48	I	3.09	0.412	mg/Kg	☼	09/04/18 13:28	09/05/18 18:25	10

Client Sample ID: MWC-5DR-77
Lab Sample ID: 400-158570-6
Date Collected: 08/31/18 11:02
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 96.2

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0766	U	0.504	0.0766	mg/Kg	☼	09/04/18 13:28	09/05/18 18:29	10
Molybdenum	0.403	U	3.03	0.403	mg/Kg	☼	09/04/18 13:28	09/05/18 18:29	10

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MWC-5DR-94

Lab Sample ID: 400-158570-7
Date Collected: 08/31/18 11:08
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 81.4

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.276	I	0.586	0.0891	mg/Kg	☼	09/04/18 13:28	09/05/18 18:34	10
Molybdenum	1.79	I	3.52	0.469	mg/Kg	☼	09/04/18 13:28	09/05/18 18:34	10

Client Sample ID: MWP-13R-22

Lab Sample ID: 400-158570-8
Date Collected: 08/31/18 11:12
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 88.2

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0842	U	0.554	0.0842	mg/Kg	☼	09/04/18 13:28	09/05/18 18:38	10
Molybdenum	0.443	U	3.32	0.443	mg/Kg	☼	09/04/18 13:28	09/05/18 18:38	10

Client Sample ID: MWP-13R-42

Lab Sample ID: 400-158570-9
Date Collected: 08/31/18 11:15
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 87.3

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0862	U	0.567	0.0862	mg/Kg	☼	09/04/18 13:28	09/05/18 18:43	10
Molybdenum	0.454	U	3.40	0.454	mg/Kg	☼	09/04/18 13:28	09/05/18 18:43	10

Client Sample ID: MWP-13R-52

Lab Sample ID: 400-158570-10
Date Collected: 08/31/18 11:16
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 85.7

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0814	U	0.536	0.0814	mg/Kg	☼	09/04/18 13:28	09/05/18 18:47	10
Molybdenum	0.429	U	3.21	0.429	mg/Kg	☼	09/04/18 13:28	09/05/18 18:47	10

Client Sample ID: MWP-11R-45

Lab Sample ID: 400-158570-11
Date Collected: 08/31/18 11:23
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 85.4

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0874	I	0.575	0.0874	mg/Kg	☼	09/04/18 13:28	09/05/18 18:52	10
Molybdenum	0.460	U	3.45	0.460	mg/Kg	☼	09/04/18 13:28	09/05/18 18:52	10

Client Sample ID: MWP-11R-65

Lab Sample ID: 400-158570-12
Date Collected: 08/31/18 11:30
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 79.9

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.300	I	0.608	0.0923	mg/Kg	☼	09/04/18 13:28	09/05/18 18:56	10
Molybdenum	0.486	U	3.65	0.486	mg/Kg	☼	09/04/18 13:28	09/05/18 18:56	10

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: EXB-02-62
Lab Sample ID: 400-158570-13
Date Collected: 08/31/18 11:36
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 97.0

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0778	U	0.512	0.0778	mg/Kg	☼	09/04/18 13:28	09/05/18 19:23	10
Molybdenum	0.409	U	3.07	0.409	mg/Kg	☼	09/04/18 13:28	09/05/18 19:23	10

Client Sample ID: EXB-02-72
Lab Sample ID: 400-158570-14
Date Collected: 08/31/18 11:37
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 88.0

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**19.6**		0.565	0.0859	mg/Kg	☼	09/04/18 13:28	09/05/18 19:27	10
Molybdenum	0.452	U	3.39	0.452	mg/Kg	☼	09/04/18 13:28	09/05/18 19:27	10

Client Sample ID: MW-3D(MWI-1)-60
Lab Sample ID: 400-158570-15
Date Collected: 08/31/18 11:45
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 98.2

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.190**	**I**	0.480	0.0729	mg/Kg	☼	09/04/18 13:28	09/05/18 19:32	10
Molybdenum	**0.540**	**I**	2.88	0.384	mg/Kg	☼	09/04/18 13:28	09/05/18 19:32	10

Client Sample ID: MW-4D(MWI-2)-48
Lab Sample ID: 400-158570-16
Date Collected: 08/31/18 11:53
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 83.7

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.896**		0.567	0.0862	mg/Kg	☼	09/04/18 13:28	09/05/18 19:37	10
Molybdenum	0.454	U	3.40	0.454	mg/Kg	☼	09/04/18 13:28	09/05/18 19:37	10

Client Sample ID: MWC-7R-30
Lab Sample ID: 400-158570-17
Date Collected: 08/31/18 12:00
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 82.9

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**1.09**		0.583	0.0886	mg/Kg	☼	09/04/18 13:28	09/05/18 19:41	10
Molybdenum	0.467	U	3.50	0.467	mg/Kg	☼	09/04/18 13:28	09/05/18 19:41	10

Client Sample ID: MWC-7R-62
Lab Sample ID: 400-158570-18
Date Collected: 08/31/18 12:03
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 75.9

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**1.13**		0.653	0.0993	mg/Kg	☼	09/04/18 13:28	09/05/18 19:45	10
Molybdenum	0.523	U	3.92	0.523	mg/Kg	☼	09/04/18 13:28	09/05/18 19:45	10

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: GE-4DR-52

Date Collected: 08/31/18 12:08
Date Received: 08/31/18 12:55

Lab Sample ID: 400-158570-19

Matrix: Solid
Percent Solids: 81.1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.135**	**I**	0.599	0.0911	mg/Kg	☼	09/04/18 13:28	09/05/18 19:50	10
Molybdenum	0.480	U	3.60	0.480	mg/Kg	☼	09/04/18 13:28	09/05/18 19:50	10

Qualifiers

Metals

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

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: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MW-D-35 — Lab Sample ID: 400-158570-1

Date Collected: 08/31/18 10:30
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MW-D-35 — Lab Sample ID: 400-158570-1

Date Collected: 08/31/18 10:30
Date Received: 08/31/18 12:55
Matrix: Solid
Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 17:26	DRE	TAL PEN

Client Sample ID: MWC-8R-30 — Lab Sample ID: 400-158570-2

Date Collected: 08/31/18 10:40
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-8R-30 — Lab Sample ID: 400-158570-2

Date Collected: 08/31/18 10:40
Date Received: 08/31/18 12:55
Matrix: Solid
Percent Solids: 85.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 17:49	DRE	TAL PEN

Client Sample ID: MWC-8R-42 — Lab Sample ID: 400-158570-3

Date Collected: 08/31/18 10:45
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-8R-42 — Lab Sample ID: 400-158570-3

Date Collected: 08/31/18 10:45
Date Received: 08/31/18 12:55
Matrix: Solid
Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:16	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MWC-8R-57 — Lab Sample ID: 400-158570-4

Date Collected: 08/31/18 10:48 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-8R-57 — Lab Sample ID: 400-158570-4

Date Collected: 08/31/18 10:48 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 97.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:20	DRE	TAL PEN

Client Sample ID: MWC-5DR-58 — Lab Sample ID: 400-158570-5

Date Collected: 08/31/18 10:56 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-5DR-58 — Lab Sample ID: 400-158570-5

Date Collected: 08/31/18 10:56 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 98.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:25	DRE	TAL PEN

Client Sample ID: MWC-5DR-77 — Lab Sample ID: 400-158570-6

Date Collected: 08/31/18 11:02 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-5DR-77 — Lab Sample ID: 400-158570-6

Date Collected: 08/31/18 11:02 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 96.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:29	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MWC-5DR-94 — Lab Sample ID: 400-158570-7

Date Collected: 08/31/18 11:08 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-5DR-94 — Lab Sample ID: 400-158570-7

Date Collected: 08/31/18 11:08 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 81.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:34	DRE	TAL PEN

Client Sample ID: MWP-13R-22 — Lab Sample ID: 400-158570-8

Date Collected: 08/31/18 11:12 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWP-13R-22 — Lab Sample ID: 400-158570-8

Date Collected: 08/31/18 11:12 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 88.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:38	DRE	TAL PEN

Client Sample ID: MWP-13R-42 — Lab Sample ID: 400-158570-9

Date Collected: 08/31/18 11:15 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWP-13R-42 — Lab Sample ID: 400-158570-9

Date Collected: 08/31/18 11:15 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 87.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:43	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MWP-13R-52 — Lab Sample ID: 400-158570-10

Date Collected: 08/31/18 11:16 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWP-13R-52 — Lab Sample ID: 400-158570-10

Date Collected: 08/31/18 11:16 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 85.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:47	DRE	TAL PEN

Client Sample ID: MWP-11R-45 — Lab Sample ID: 400-158570-11

Date Collected: 08/31/18 11:23 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWP-11R-45 — Lab Sample ID: 400-158570-11

Date Collected: 08/31/18 11:23 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 85.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:52	DRE	TAL PEN

Client Sample ID: MWP-11R-65 — Lab Sample ID: 400-158570-12

Date Collected: 08/31/18 11:30 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWP-11R-65 — Lab Sample ID: 400-158570-12

Date Collected: 08/31/18 11:30 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 79.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 18:56	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: EXB-02-62
Lab Sample ID: 400-158570-13
Date Collected: 08/31/18 11:36
Matrix: Solid
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: EXB-02-62
Lab Sample ID: 400-158570-13
Date Collected: 08/31/18 11:36
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:23	DRE	TAL PEN

Client Sample ID: EXB-02-72
Lab Sample ID: 400-158570-14
Date Collected: 08/31/18 11:37
Matrix: Solid
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: EXB-02-72
Lab Sample ID: 400-158570-14
Date Collected: 08/31/18 11:37
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:27	DRE	TAL PEN

Client Sample ID: MW-3D(MWI-1)-60
Lab Sample ID: 400-158570-15
Date Collected: 08/31/18 11:45
Matrix: Solid
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MW-3D(MWI-1)-60
Lab Sample ID: 400-158570-15
Date Collected: 08/31/18 11:45
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 98.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:32	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: MW-4D(MWI-2)-48 — Lab Sample ID: 400-158570-16

Date Collected: 08/31/18 11:53 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MW-4D(MWI-2)-48 — Lab Sample ID: 400-158570-16

Date Collected: 08/31/18 11:53 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 83.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:37	DRE	TAL PEN

Client Sample ID: MWC-7R-30 — Lab Sample ID: 400-158570-17

Date Collected: 08/31/18 12:00 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-7R-30 — Lab Sample ID: 400-158570-17

Date Collected: 08/31/18 12:00 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 82.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:41	DRE	TAL PEN

Client Sample ID: MWC-7R-62 — Lab Sample ID: 400-158570-18

Date Collected: 08/31/18 12:03 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: MWC-7R-62 — Lab Sample ID: 400-158570-18

Date Collected: 08/31/18 12:03 — **Matrix: Solid**
Date Received: 08/31/18 12:55 — **Percent Solids: 75.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:45	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Client Sample ID: GE-4DR-52
Lab Sample ID: 400-158570-19

Date Collected: 08/31/18 12:08
Matrix: Solid
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	410355	09/05/18 10:21	TMP	TAL PEN

Client Sample ID: GE-4DR-52
Lab Sample ID: 400-158570-19

Date Collected: 08/31/18 12:08
Matrix: Solid
Date Received: 08/31/18 12:55
Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			410262	09/04/18 13:28	DRE	TAL PEN
Total/NA	Analysis	6020		10	410547	09/05/18 19:50	DRE	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: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Metals

Prep Batch: 410262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-1	MW-D-35	Total/NA	Solid	3050B	
400-158570-2	MWC-8R-30	Total/NA	Solid	3050B	
400-158570-3	MWC-8R-42	Total/NA	Solid	3050B	
400-158570-4	MWC-8R-57	Total/NA	Solid	3050B	
400-158570-5	MWC-5DR-58	Total/NA	Solid	3050B	
400-158570-6	MWC-5DR-77	Total/NA	Solid	3050B	
400-158570-7	MWC-5DR-94	Total/NA	Solid	3050B	
400-158570-8	MWP-13R-22	Total/NA	Solid	3050B	
400-158570-9	MWP-13R-42	Total/NA	Solid	3050B	
400-158570-10	MWP-13R-52	Total/NA	Solid	3050B	
400-158570-11	MWP-11R-45	Total/NA	Solid	3050B	
400-158570-12	MWP-11R-65	Total/NA	Solid	3050B	
400-158570-13	EXB-02-62	Total/NA	Solid	3050B	
400-158570-14	EXB-02-72	Total/NA	Solid	3050B	
400-158570-15	MW-3D(MWI-1)-60	Total/NA	Solid	3050B	
400-158570-16	MW-4D(MWI-2)-48	Total/NA	Solid	3050B	
400-158570-17	MWC-7R-30	Total/NA	Solid	3050B	
400-158570-18	MWC-7R-62	Total/NA	Solid	3050B	
400-158570-19	GE-4DR-52	Total/NA	Solid	3050B	
MB 400-410262/1-A ^10	Method Blank	Total/NA	Solid	3050B	
LCS 400-410262/2-A ^10	Lab Control Sample	Total/NA	Solid	3050B	
400-158570-1 MS	MW-D-35	Total/NA	Solid	3050B	
400-158570-1 MSD	MW-D-35	Total/NA	Solid	3050B	

Analysis Batch: 410547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-1	MW-D-35	Total/NA	Solid	6020	410262
400-158570-2	MWC-8R-30	Total/NA	Solid	6020	410262
400-158570-3	MWC-8R-42	Total/NA	Solid	6020	410262
400-158570-4	MWC-8R-57	Total/NA	Solid	6020	410262
400-158570-5	MWC-5DR-58	Total/NA	Solid	6020	410262
400-158570-6	MWC-5DR-77	Total/NA	Solid	6020	410262
400-158570-7	MWC-5DR-94	Total/NA	Solid	6020	410262
400-158570-8	MWP-13R-22	Total/NA	Solid	6020	410262
400-158570-9	MWP-13R-42	Total/NA	Solid	6020	410262
400-158570-10	MWP-13R-52	Total/NA	Solid	6020	410262
400-158570-11	MWP-11R-45	Total/NA	Solid	6020	410262
400-158570-12	MWP-11R-65	Total/NA	Solid	6020	410262
400-158570-13	EXB-02-62	Total/NA	Solid	6020	410262
400-158570-14	EXB-02-72	Total/NA	Solid	6020	410262
400-158570-15	MW-3D(MWI-1)-60	Total/NA	Solid	6020	410262
400-158570-16	MW-4D(MWI-2)-48	Total/NA	Solid	6020	410262
400-158570-17	MWC-7R-30	Total/NA	Solid	6020	410262
400-158570-18	MWC-7R-62	Total/NA	Solid	6020	410262
400-158570-19	GE-4DR-52	Total/NA	Solid	6020	410262
MB 400-410262/1-A ^10	Method Blank	Total/NA	Solid	6020	410262
LCS 400-410262/2-A ^10	Lab Control Sample	Total/NA	Solid	6020	410262
400-158570-1 MS	MW-D-35	Total/NA	Solid	6020	410262
400-158570-1 MSD	MW-D-35	Total/NA	Solid	6020	410262

QC Association Summary

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

General Chemistry

Analysis Batch: 410355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-1	MW-D-35	Total/NA	Solid	Moisture	
400-158570-2	MWC-8R-30	Total/NA	Solid	Moisture	
400-158570-3	MWC-8R-42	Total/NA	Solid	Moisture	
400-158570-4	MWC-8R-57	Total/NA	Solid	Moisture	
400-158570-5	MWC-5DR-58	Total/NA	Solid	Moisture	
400-158570-6	MWC-5DR-77	Total/NA	Solid	Moisture	
400-158570-7	MWC-5DR-94	Total/NA	Solid	Moisture	
400-158570-8	MWP-13R-22	Total/NA	Solid	Moisture	
400-158570-9	MWP-13R-42	Total/NA	Solid	Moisture	
400-158570-10	MWP-13R-52	Total/NA	Solid	Moisture	
400-158570-11	MWP-11R-45	Total/NA	Solid	Moisture	
400-158570-12	MWP-11R-65	Total/NA	Solid	Moisture	
400-158570-13	EXB-02-62	Total/NA	Solid	Moisture	
400-158570-14	EXB-02-72	Total/NA	Solid	Moisture	
400-158570-15	MW-3D(MWI-1)-60	Total/NA	Solid	Moisture	
400-158570-16	MW-4D(MWI-2)-48	Total/NA	Solid	Moisture	
400-158570-17	MWC-7R-30	Total/NA	Solid	Moisture	
400-158570-18	MWC-7R-62	Total/NA	Solid	Moisture	
400-158570-19	GE-4DR-52	Total/NA	Solid	Moisture	
400-158570-1 DU	MW-D-35	Total/NA	Solid	Moisture	

QC Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-410262/1-A ^10
Matrix: Solid
Analysis Batch: 410547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410262

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0737	U	0.485	0.0737	mg/Kg		09/04/18 13:28	09/05/18 17:17	10
Molybdenum	0.388	U	2.91	0.388	mg/Kg		09/04/18 13:28	09/05/18 17:17	10

Lab Sample ID: LCS 400-410262/2-A ^10
Matrix: Solid
Analysis Batch: 410547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410262

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	9.88	10.97		mg/Kg		111	80 - 120
Molybdenum	9.88	10.29		mg/Kg		104	80 - 120

Lab Sample ID: 400-158570-1 MS
Matrix: Solid
Analysis Batch: 410547

Client Sample ID: MW-D-35
Prep Type: Total/NA
Prep Batch: 410262

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.0956	I	5.39	6.249		mg/Kg	☼	114	75 - 125
Molybdenum	0.434	U	5.39	5.819		mg/Kg	☼	108	75 - 125

Lab Sample ID: 400-158570-1 MSD
Matrix: Solid
Analysis Batch: 410547

Client Sample ID: MW-D-35
Prep Type: Total/NA
Prep Batch: 410262

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.0956	I	5.17	5.767		mg/Kg	☼	110	75 - 125	8	20
Molybdenum	0.434	U	5.17	5.157		mg/Kg	☼	100	75 - 125	12	20

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: Jul Johnson	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-76598-29937.2
Client Contact: Kristi Mitchell	Phone: 850-483-5100	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page ~~2~~ of ~~2~~ 1 of 2
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days): 24-48 hrs			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: Molybdenum	Project #: 40000612			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C - SPLP Molybdenum	6010C - Molybdenum	Cobalt 6020	Co SPLP 6020	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
MW-D-35	8/31/18	1030	G	Solid			X	X	X	X		hold SPLP pending total results
MWC-8R-30	8/31/18	1040		Solid								
MWC-8R-42	8/31/18	1045		Solid								
MWC-8R-57	8/31/18	1048		Solid								
MWC-5DR-58	8/31/18	1056		Solid								
MWC-5DR-77	8/31/18	1102		Solid								
MWC-5DR-94	8/31/18	1108		Solid								
MWP-13R-22	8/31/18	1112		Solid								
MWP-13R-42	8/31/18	1115		Solid								
MWP-13R-52	8/31/18	1116		S								400-158570 COC
MWP-11R-45	8/31/18	1123		S								

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]	8/31/18 1255	Gulf Power			
			[signature]	8-31-18 1255	TA-PEN

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 27.0°C IR7

Ver: 08/04/2016

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Jill Johnson	Lab PM: Whitmire, Cheyenne R	Carrier Tracking No(s):	COC No: 400-76598-29937.1
Client Contact: Kristi Mitchell	Phone: 8504835700	E-Mail: cheyenne.whitmire@testamericainc.com		Page: Page ~~X~~ of ~~X~~ 2 of 2
Company: Gulf Power Company				Job #:
Address: BIN 731 One Energy Place	Due Date Requested:			
City: Pensacola	TAT Requested (days): 24-48 hrs			
State, Zip: FL, 32520				
Phone: 850-444-6427(Tel)	PO #: Purchase Order not required			
Email: krmitche@southernco.com	WO #:			
Project Name: Molybdenum	Project #: 40000612			
Site: Chst	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)	6010C - SPLP Molybdenum 6020	6010C - Molybdenum 6020	Cobalt 6020	Co SPLP 6020	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
MWP-11R-65	8/31/18	1130	G	Solid			X	X	X	X		hold SPLP pending total results
EXB-02-62	8/31/18	1136	G	Solid								
EXB-02-72	8/31/18	1137		Solid								
MW-3D (MWI-1)-60	8/31/18	1145		Solid								
MW-4D (MWI-2)-48	8/31/18	1153		Solid								
MWC-7R-30	8/31/18	1200		Solid								
MWC-7R-62	8/31/18	1203		Solid								
GE-4DR-52	8/31/18	1208		Solid								
				Solid								
				Solid								
				Solid								

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]	8/31/18 1255	Gulf Power			
			[signature]	8-31-18 1255	TA-PEN

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 27.0 IR7

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-157520-1
8SG Number:

Login Number: 158570
List Number: 1
Creator: Johnson, Jeremy N

List Source: TestAmerica Pensacola

Question	Answer	Comment
AaRioadticity wavns d' edheR or iv kD< badh=rounR av meavureR by a vurcey meterg	NDD	
. ' e doolersv duvtoRy vealTif preventTiv intadtg	. rue	
8ample duvtoRy vealvTif preventTare intadtg	NDD	
. ' e dooler or vamplev Ro not appear to ' ace been dompromiveR or tampereR wit' g	. rue	
8amplev were redeiceR on ideg	. rue	
Cooler . emperature iv addeptableg	. rue	
Cooler . emperature iv redorReRg	. rue	, 2g0°C IA2
COC iv preventg	. rue	
COC iv filleR out in inh anR le=ibleg	. rue	
COC iv filleR out wit' all pertinent informationg	. rue	
Iv t' e FielR 8amplersv name prevent on COC?	. rue	
. ' ere are no Rivdrepandiev between t' e dontainerv redeiceR anR t' e COCg	. rue	
8amplev are redeiceR wit' in HolRin= . ime (exdluRin= tevtv wit' immeRiate H. v)	. rue	
8ample dontainerv ' ace le=ible labelvg	. rue	
Containerv are not brohen or leahin=g	. rue	
8ample dolledtion RateDimev are prociReRg	. rue	
/ ppropriate vample dontainerv are uveRg	. rue	
8ample bottlev are dompletely filleRg	. rue	
8ample Prevercation VerifieRg	. rue	
. ' ere iv vuffidient colgfor all requevteR analyvevTindlgany requevteR M8DM8Sv	. rue	
Containerv requirin= zero ' eaRvpade ' ace no ' eaRvpade or bubble iv k6mm (1D4")g	NDD	
Multip' avid vamplev are not preventg	. rue	
8amplev Ro not require vplittin= or dompovitin=g	. rue	
AeviRual C' lorine C' edheRg	NDD	

Accreditation/Certification Summary

Client: Gulf Power Company
Pro&ectj/ ite: Cobalt S L olyb&enum

TestAmerica Job ID: 400-157520-1

Laboratory: TestAmerica Pensacola

All accre&itationsjcertifications Mel& by tMs laboratory are liste&d h ot all accre&itationsjcertifications are applicable to tMs reportd

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	/ tate Pro. ram	4	40150	0N-g0-16
Ah A3	I/ 9 jIBC 120C5		EC421	0C-CC-C0
Arizona	/ tate Pro. ram	6	AZ0210	01-1C-16
Arkansas DBQ	/ tate Pro. ram	N	77-0N76	06-01-17 F
California	/ tate Pro. ram	6	C510	0N-g0-16
(lori&a	h BEAP	4	B71010	0N-g0-16
Geor. ia	/ tate Pro. ram	4	B71010)(E*	0N-g0-16
Illinois	h BEAP	5	C00041	10-06-17
Iowa	/ tate Pro. ram	2	gN2	07-01-17 F
Kansas	h BEAP	2	B-10C5g	10-g1-17
Kentucky)U/ T*	/ tate Pro. ram	4	5g	0N-g0-16
Kentucky)WW*	/ tate Pro. ram	4	670g0	1C-g1-17
Eouisiana	h BEAP	N	g062N	0N-g0-16
Eouisiana)DW*	h BEAP	N	EA120005	1C-g1-17
L arylan&	/ tate Pro. ram	g	Cgg	06-g0-16
L assacMusetts	/ tate Pro. ram	1	L -(E064	0N-g0-16
L icM. an	/ tate Pro. ram	5	661C	0N-g0-16
h ew Jersey	h BEAP	C	(E00N	0N-g0-16
h ortMCarolina)WWj/ W*	/ tate Pro. ram	4	g14	1C-g1-17
9 klaMoma	/ tate Pro. ram	N	6710	07-g1-16
Pennsylvania	h BEAP	g	N7-004N2	01-g1-16
RMo&e Islan&	/ tate Pro. ram	1	EA9 00g02	1C-g0-17
/ outMCarolina	/ tate Pro. ram	4	6N0CN	0N-g0-17 F
Tennessee	/ tate Pro. ram	4	Th 0C602	0N-g0-16
Texas	h BEAP	N	T104204C7N-17-14	06-g0-17
U/ (isMS Wil&life	(e&eral		EB057447-0	02-g1-16
U/ DA	(e&eral		Pgg0-17-00147	05-12-C1
Vir. inia	h BEAP	g	4N01NN	0N-14-16
WasMn. ton	/ tate Pro. ram	10	C615	05-15-16
West Vir. inia DBP	/ tate Pro. ram	g	1gN	0N-g0-16

FAccre&itationjCertification renewal pen&in. - accre&itationjcertification consi&ere& vali&d

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: 400-158570-2
TestAmerica Sample Delivery Group: SPLP
Client Project/Site: Cobalt & Molybdenum

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

Attn: Kristi Mitchell

Authorized for release by:
9/17/2018 6:14:59 PM

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

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
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 9
Chronicle 10
QC Association 13
QC Sample Results 15
Receipt Checklists 17
Certification Summary 18

Case Narrative

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Job ID: 400-158570-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-158570-2

Metals
Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: EXB-02-72 (400-158570-14). Elevated reporting limits (RLs) are provided.

Method Summary

Client: Gulf Power Company
Project/Site: Cobalt d j olyb/ enum

TestAmerica Job ID: 400-157520-8
SDG: SPLP

Method	Method Description	Protocol	Laboratory
6080	j etals (ICP/MS)	SW746	TAL PEN
1318	SPLP Extraction	SW746	TAL PEN
3010A	Preparation, Total j etals	SW746	TAL PEN

Protocol References:

SW746 = "Test j etho/ s For Evaluating Soli/ Waste, Physical/Chemical j etho/ s", Thir/ E/ ition, November 1976 An/ Its Up/ ates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 j cLemore Drive, Pensacola, FL 38514, TEL (750)424-1001

Sample Summary

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-158570-1	MW-D-35	Solid	08/31/18 10:30	08/31/18 12:55
400-158570-2	MWC-8R-30	Solid	08/31/18 10:40	08/31/18 12:55
400-158570-3	MWC-8R-42	Solid	08/31/18 10:45	08/31/18 12:55
400-158570-4	MWC-8R-57	Solid	08/31/18 10:48	08/31/18 12:55
400-158570-5	MWC-5DR-58	Solid	08/31/18 10:56	08/31/18 12:55
400-158570-7	MWC-5DR-94	Solid	08/31/18 11:08	08/31/18 12:55
400-158570-11	MWP-11R-45	Solid	08/31/18 11:23	08/31/18 12:55
400-158570-12	MWP-11R-65	Solid	08/31/18 11:30	08/31/18 12:55
400-158570-14	EXB-02-72	Solid	08/31/18 11:37	08/31/18 12:55
400-158570-15	MW-3D(MWI-1)-60	Solid	08/31/18 11:45	08/31/18 12:55
400-158570-16	MW-4D(MWI-2)-48	Solid	08/31/18 11:53	08/31/18 12:55
400-158570-17	MWC-7R-30	Solid	08/31/18 12:00	08/31/18 12:55
400-158570-18	MWC-7R-62	Solid	08/31/18 12:03	08/31/18 12:55
400-158570-19	GE-4DR-52	Solid	08/31/18 12:08	08/31/18 12:55

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Client Sample ID: MW-D-35
Lab Sample ID: 400-158570-1
Date Collected: 08/31/18 10:30
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 19:43	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 19:43	5

Client Sample ID: MWC-8R-30
Lab Sample ID: 400-158570-9
Date Collected: 08/31/18 10:40
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0f588		0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 20:28	5
MolAbdenum	0f00148	I	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 20:28	5

Client Sample ID: MWC-8R-49
Lab Sample ID: 400-158570-3
Date Collected: 08/31/18 10:45
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 20:32	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 20:32	5

Client Sample ID: MWC-8R-57
Lab Sample ID: 400-158570-4
Date Collected: 08/31/18 10:48
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0f93E		0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 20:37	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 20:37	5

Client Sample ID: MWC-5DR-58
Lab Sample ID: 400-158570-5
Date Collected: 08/31/18 10:52
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 20:41	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 20:41	5

Client Sample ID: MWC-5DR-E4
Lab Sample ID: 400-158570-7
Date Collected: 08/31/18 11:08
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 20:45	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 20:45	5

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Client Sample ID: MWh-11R-45
Lab Sample ID: 400-158570-11
Date Collected: 08/31/18 11:93
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vCh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 14:05	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 14:05	5

Client Sample ID: MWh-11R-25
Lab Sample ID: 400-158570-19
Date Collected: 08/31/18 11:30
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vCh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 14:28	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 14:28	5

Client Sample ID: (XB-09-79
Lab Sample ID: 400-158570-14
Date Collected: 08/31/18 11:37
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vCh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 14:32	5

Met. od: 2090 - Metals vCh/MS6- ShLh (ast - DL

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	**1f04**		0.0125	0.00200	mg/L		09/14/18 08:03	09/17/18 15:23	25

Client Sample ID: MW-3DvMWI-16-20
Lab Sample ID: 400-158570-15
Date Collected: 08/31/18 11:45
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vCh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 14:37	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 14:37	5

Client Sample ID: MW-4DvMWI-96-48
Lab Sample ID: 400-158570-12
Date Collected: 08/31/18 11:53
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vCh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 15:04	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 15:04	5

Client Sample ID: MWC-7R-30
Lab Sample ID: 400-158570-17
Date Collected: 08/31/18 19:00
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vCh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 15:10	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 15:10	5

Client Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Client Sample ID: MWC-7R-29

Lab Sample ID: 400-158570-18

Date Collected: 08/31/18 19:03
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 15:14	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 15:14	5

Client Sample ID: G(-4DR-59

Lab Sample ID: 400-158570-1E

Date Collected: 08/31/18 19:08
Matrix: Solid
Date ReceiPed: 08/31/18 19:55

Met. od: 2090 - Metals vICh/MS6- ShLh (ast

QnalAte	Result	) ualiUer	h) L	MDL	z nit	D	hrepared	QnalAFed	Dil yac
Cobalt	0.000400	U	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 15:19	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 15:19	5

Definitions/Glossary

Client: Gulf Power Company
Project/Site: Cobalt d j olyb/ enum

TestAmerica Job ID: 400-157520-8
SDG: SPLP

Qualifiers

Metals

Qualifier	Qualifier Description
U	In/ icates that the compoun/ was analyze/ for but not / etecte/ .
I	The reporte/ ¤alue is between the laboratory metho/ / etection limit an/ the laboratory practical " uantitation limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
g	Liste/ un/ er the %D% column to / esiRnate that the result is reporte/ on a / ry weiRht basis
v F	Percent Feco¤ery
CqL	Contains qree Li" ui/
CNq	Contains No qree Li" ui/
DEF	Duplicate Error Fatio (normalize/ absolute / ifference)
Dil qac	Dilution qactor
DL	Detection Limit (DoDNDOE)
DL, FA, FE, IN	In/ icates a Dilution, Fe-analysis, Fe-extraction, or a/ / itional Initial metalsNanion analysis of the sample
DLC	Decision Le¤el Concentration (Fa/ iochemistry)
EDL	Estimate/ Detection Limit (Dioxin)
LOD	Limit of Detection (DoDNDOE)
LOQ	Limit of Quantitation (DoDNDOE)
j DA	j inimum Detectable Acti¤ity (Fa/ iochemistry)
j DC	j inimum Detectable Concentration (Fa/ iochemistry)
j DL	j etho/ Detection Limit
j L	j inimum Le¤el (Dioxin)
NC	Not Calculate/
ND	Not Detecte/ at the reportinR limit (or j DL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
FEF	Felati¤e Error Fatio (Fa/ iochemistry)
FL	FeportinR Limit or Fe" ueste/ Limit (Fa/ iochemistry)
FPD	Felati¤e Percent Difference, a measure of the relati¤e / ifference between two points
TEq	Toxicity E" ui¤alent qactor (Dioxin)
TEQ	Toxicity E" ui¤alent Quotient (Dioxin)

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Client Sample ID: MW-D-35 — Lab Sample ID: 400-158570-1

Date Collected: 08/31/18 10:30
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411121	09/11/18 15:32	SLB	TAL PEN
SPLP East	Prep	3010A			411348	09/13/18 08:14	DRE	TAL PEN
SPLP East	Analysis	6020		5	411740	09/13/18 19:43	DRE	TAL PEN

Client Sample ID: MWC-8R-30 — Lab Sample ID: 400-158570-2

Date Collected: 08/31/18 10:40
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411121	09/11/18 15:32	SLB	TAL PEN
SPLP East	Prep	3010A			411348	09/13/18 08:14	DRE	TAL PEN
SPLP East	Analysis	6020		5	411740	09/13/18 20:28	DRE	TAL PEN

Client Sample ID: MWC-8R-42 — Lab Sample ID: 400-158570-3

Date Collected: 08/31/18 10:45
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411121	09/11/18 15:32	SLB	TAL PEN
SPLP East	Prep	3010A			411348	09/13/18 08:14	DRE	TAL PEN
SPLP East	Analysis	6020		5	411740	09/13/18 20:32	DRE	TAL PEN

Client Sample ID: MWC-8R-57 — Lab Sample ID: 400-158570-4

Date Collected: 08/31/18 10:48
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411121	09/11/18 15:32	SLB	TAL PEN
SPLP East	Prep	3010A			411348	09/13/18 08:14	DRE	TAL PEN
SPLP East	Analysis	6020		5	411740	09/13/18 20:37	DRE	TAL PEN

Client Sample ID: MWC-5DR-58 — Lab Sample ID: 400-158570-5

Date Collected: 08/31/18 10:56
Date Received: 08/31/18 12:55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411121	09/11/18 15:32	SLB	TAL PEN
SPLP East	Prep	3010A			411348	09/13/18 08:14	DRE	TAL PEN
SPLP East	Analysis	6020		5	411740	09/13/18 20:41	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Client Sample ID: MWC-5DR-94 — Lab Sample ID: 400-158570-7

Date Collected: 08/31/18 11:08 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411121	09/11/18 15:32	SLB	TAL PEN
SPLP East	Prep	3010A			411348	09/13/18 08:14	DRE	TAL PEN
SPLP East	Analysis	6020		5	411740	09/13/18 20:45	DRE	TAL PEN

Client Sample ID: MWP-11R-45 — Lab Sample ID: 400-158570-11

Date Collected: 08/31/18 11:23 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 14:05	DRE	TAL PEN

Client Sample ID: MWP-11R-65 — Lab Sample ID: 400-158570-12

Date Collected: 08/31/18 11:30 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 14:28	DRE	TAL PEN

Client Sample ID: EXB-02-72 — Lab Sample ID: 400-158570-14

Date Collected: 08/31/18 11:37 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 14:32	DRE	TAL PEN
SPLP East	Leach	1312	DL		411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A	DL		411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020	DL	25	411858	09/17/18 15:23	DRE	TAL PEN

Client Sample ID: MW-3D(MWI-1)-60 — Lab Sample ID: 400-158570-15

Date Collected: 08/31/18 11:45 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 14:37	DRE	TAL PEN

Lab Chronicle

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Client Sample ID: MW-4D(MWI-2)-48 — Lab Sample ID: 400-158570-16

Date Collected: 08/31/18 11:53 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 15:04	DRE	TAL PEN

Client Sample ID: MWC-7R-30 — Lab Sample ID: 400-158570-17

Date Collected: 08/31/18 12:00 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 15:10	DRE	TAL PEN

Client Sample ID: MWC-7R-62 — Lab Sample ID: 400-158570-18

Date Collected: 08/31/18 12:03 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 15:14	DRE	TAL PEN

Client Sample ID: GE-4DR-52 — Lab Sample ID: 400-158570-19

Date Collected: 08/31/18 12:08 — **Matrix: Solid**
Date Received: 08/31/18 12:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			411276	09/12/18 14:41	SLB	TAL PEN
SPLP East	Prep	3010A			411476	09/14/18 08:03	KWN	TAL PEN
SPLP East	Analysis	6020		5	411858	09/17/18 15:19	DRE	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: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Metals

Leach Batch: 411121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-1	MW-D-35	SPLP East	Solid	1312	
400-158570-2	MWC-8R-30	SPLP East	Solid	1312	
400-158570-3	MWC-8R-42	SPLP East	Solid	1312	
400-158570-4	MWC-8R-57	SPLP East	Solid	1312	
400-158570-5	MWC-5DR-58	SPLP East	Solid	1312	
400-158570-7	MWC-5DR-94	SPLP East	Solid	1312	
LB 400-411121/1-B ^5	Method Blank	SPLP East	Solid	1312	
400-158570-1 MS	MW-D-35	SPLP East	Solid	1312	
400-158570-1 MSD	MW-D-35	SPLP East	Solid	1312	

Leach Batch: 411276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-11	MWP-11R-45	SPLP East	Solid	1312	
400-158570-12	MWP-11R-65	SPLP East	Solid	1312	
400-158570-14 - DL	EXB-02-72	SPLP East	Solid	1312	
400-158570-14	EXB-02-72	SPLP East	Solid	1312	
400-158570-15	MW-3D(MWI-1)-60	SPLP East	Solid	1312	
400-158570-16	MW-4D(MWI-2)-48	SPLP East	Solid	1312	
400-158570-17	MWC-7R-30	SPLP East	Solid	1312	
400-158570-18	MWC-7R-62	SPLP East	Solid	1312	
400-158570-19	GE-4DR-52	SPLP East	Solid	1312	
LB 400-411276/1-B ^5	Method Blank	SPLP East	Solid	1312	
400-158570-11 MS	MWP-11R-45	SPLP East	Solid	1312	
400-158570-11 MSD	MWP-11R-45	SPLP East	Solid	1312	

Prep Batch: 411348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-1	MW-D-35	SPLP East	Solid	3010A	411121
400-158570-2	MWC-8R-30	SPLP East	Solid	3010A	411121
400-158570-3	MWC-8R-42	SPLP East	Solid	3010A	411121
400-158570-4	MWC-8R-57	SPLP East	Solid	3010A	411121
400-158570-5	MWC-5DR-58	SPLP East	Solid	3010A	411121
400-158570-7	MWC-5DR-94	SPLP East	Solid	3010A	411121
LB 400-411121/1-B ^5	Method Blank	SPLP East	Solid	3010A	411121
LCS 400-411348/2-A ^5	Lab Control Sample	Total/NA	Solid	3010A	
400-158570-1 MS	MW-D-35	SPLP East	Solid	3010A	411121
400-158570-1 MSD	MW-D-35	SPLP East	Solid	3010A	411121

Prep Batch: 411476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-11	MWP-11R-45	SPLP East	Solid	3010A	411276
400-158570-12	MWP-11R-65	SPLP East	Solid	3010A	411276
400-158570-14	EXB-02-72	SPLP East	Solid	3010A	411276
400-158570-14 - DL	EXB-02-72	SPLP East	Solid	3010A	411276
400-158570-15	MW-3D(MWI-1)-60	SPLP East	Solid	3010A	411276
400-158570-16	MW-4D(MWI-2)-48	SPLP East	Solid	3010A	411276
400-158570-17	MWC-7R-30	SPLP East	Solid	3010A	411276
400-158570-18	MWC-7R-62	SPLP East	Solid	3010A	411276
400-158570-19	GE-4DR-52	SPLP East	Solid	3010A	411276
LB 400-411276/1-B ^5	Method Blank	SPLP East	Solid	3010A	411276
LCS 400-411476/2-A ^5	Lab Control Sample	Total/NA	Solid	3010A	

Metals (Continued)

Prep Batch: 411476 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-11 MS	MWP-11R-45	SPLP East	Solid	3010A	411276
400-158570-11 MSD	MWP-11R-45	SPLP East	Solid	3010A	411276

Analysis Batch: 411740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-1	MW-D-35	SPLP East	Solid	6020	411348
400-158570-2	MWC-8R-30	SPLP East	Solid	6020	411348
400-158570-3	MWC-8R-42	SPLP East	Solid	6020	411348
400-158570-4	MWC-8R-57	SPLP East	Solid	6020	411348
400-158570-5	MWC-5DR-58	SPLP East	Solid	6020	411348
400-158570-7	MWC-5DR-94	SPLP East	Solid	6020	411348
LB 400-411121/1-B ^5	Method Blank	SPLP East	Solid	6020	411348
LCS 400-411348/2-A ^5	Lab Control Sample	Total/NA	Solid	6020	411348
400-158570-1 MS	MW-D-35	SPLP East	Solid	6020	411348
400-158570-1 MSD	MW-D-35	SPLP East	Solid	6020	411348

Analysis Batch: 411858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-158570-11	MWP-11R-45	SPLP East	Solid	6020	411476
400-158570-12	MWP-11R-65	SPLP East	Solid	6020	411476
400-158570-14	EXB-02-72	SPLP East	Solid	6020	411476
400-158570-14 - DL	EXB-02-72	SPLP East	Solid	6020	411476
400-158570-15	MW-3D(MWI-1)-60	SPLP East	Solid	6020	411476
400-158570-16	MW-4D(MWI-2)-48	SPLP East	Solid	6020	411476
400-158570-17	MWC-7R-30	SPLP East	Solid	6020	411476
400-158570-18	MWC-7R-62	SPLP East	Solid	6020	411476
400-158570-19	GE-4DR-52	SPLP East	Solid	6020	411476
LB 400-411276/1-B ^5	Method Blank	SPLP East	Solid	6020	411476
LCS 400-411476/2-A ^5	Lab Control Sample	Total/NA	Solid	6020	411476
400-158570-11 MS	MWP-11R-45	SPLP East	Solid	6020	411476
400-158570-11 MSD	MWP-11R-45	SPLP East	Solid	6020	411476

QC Sample Results

Client: Gulf Power Company
Project/Site: Cobalt d j olyb/ enum

TestAmerica Job ID: 400-157520-8
SDG: SPLP

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: LCS 400-411348/2-A ^5
Matrix: Solid
Analysis Batch: 411740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.0500	0.05918		mg/L		106	70 - 180
j olyb/ enum	0.0500	0.04294		mg/L		35	70 - 180

Lab Sample ID: LCS 400-411476/2-A ^5
Matrix: Solid
Analysis Batch: 411858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.0500	0.04512		mg/L		30	70 - 180
j olyb/ enum	0.0500	0.04022		mg/L		78	70 - 180

Lab Sample ID: LB 400-411121/1-B ^5
Matrix: Solid
Analysis Batch: 411740

Client Sample ID: Method Blank
Prep Type: SPLP East
Prep Batch: 411348

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.000400	U	0.00850	0.000400	mg/L		03/19/17 07:14	03/19/17 13:94	5
j olyb/ enum	0.000750	U	0.0150	0.000750	mg/L		03/19/17 07:14	03/19/17 13:94	5

Lab Sample ID: 400-158570-1 MS
Matrix: Solid
Analysis Batch: 411740

Client Sample ID: MW-D-35
Prep Type: SPLP East
Prep Batch: 411348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.000400	U	0.0500	0.05902		mg/L		106	25 - 185
j olyb/ enum	0.000750	U	0.0500	0.04317		mg/L		37	25 - 185

Lab Sample ID: 400-158570-1 MSD
Matrix: Solid
Analysis Batch: 411740

Client Sample ID: MW-D-35
Prep Type: SPLP East
Prep Batch: 411348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.000400	U	0.0500	0.05997		mg/L		102	25 - 185	1	80
j olyb/ enum	0.000750	U	0.0500	0.04733		mg/L		37	25 - 185	0	80

Lab Sample ID: LB 400-411276/1-B ^5
Matrix: Solid
Analysis Batch: 411858

Client Sample ID: Method Blank
Prep Type: SPLP East
Prep Batch: 411476

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.000400	U	0.00850	0.000400	mg/L		03/14/17 07:09	03/12/17 19:56	5
j olyb/ enum	0.000750	U	0.0150	0.000750	mg/L		03/14/17 07:09	03/12/17 19:56	5

Lab Sample ID: 400-158570-11 MS
Matrix: Solid
Analysis Batch: 411858

Client Sample ID: MWP-11R-45
Prep Type: SPLP East
Prep Batch: 411476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.000400	U	0.0500	0.04563		mg/L		31	25 - 185

QC Sample Results

Client: Gulf Power Company
Project/Site: Cobalt d j olyb/ enum

TestAmerica Job ID: 400-157520-8
SDG: SPLP

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

Lab Sample ID: 400-158570-11 MS
Matrix: Solid
Analysis Batch: 411858

Client Sample ID: MWP-11R-45
Prep Type: SPLP East
Prep Batch: 411476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
j olyb/ enum	0.000750	U	0.0500	0.04988		mg/L		76	25 - 185		

Lab Sample ID: 400-158570-11 MSD
Matrix: Solid
Analysis Batch: 411858

Client Sample ID: MWP-11R-45
Prep Type: SPLP East
Prep Batch: 411476

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.000400	U	0.0500	0.04590		mg/L		31	25 - 185	1	80
j olyb/ enum	0.000750	U	0.0500	0.04178		mg/L		74	25 - 185	9	80

Login Sample Receipt Checklist

Client: Gulf Power Company

Job Number: 400-158570-2
SDG Number: SPLP

Login Number: 158570
List Number: 1
Creator: Johnson, Jeremy N

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
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	27.0°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: Cobalt L & olybMenum

TestAmerica Job ID: 400-157520-8
SDG: SPdP

Laboratory: TestAmerica Pensacola

All accreMtations/certifications helMby this laboratory are listeM Not all accreMtations/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 12085		d8421	08-88-80
Arizona	State Program	9	AZ0210	01-18-19
Arkansas DEQ	State Program	6	77-0679	09-01-19
California	State Program	9	8510	06-30-19
FloriMa	NEdAP	4	E71010	06-30-19
Georgia	State Program	4	E71010 (Fd)	06-30-19
Illinois	NEdAP	5	800041	10-09-17
Iowa	State Program	2	362	07-01-17 *
Kansas	NEdAP	2	E-10853	10-31-17
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	97030	18-31-17
douisiana	NEdAP	6	30926	06-30-19
douisiana (DW)	NEdAP	6	dA120005	18-31-17
& arylanM	State Program	3	833	09-30-19
& assachusetts	State Program	1	& -Fd094	06-30-19
& ichigan	State Program	5	9918	06-30-19
New Jersey	NEdAP	8	Fd006	06-30-19
North Carolina (WW/SW)	State Program	4	314	18-31-17
Oklahoma	State Program	6	9710	07-31-19
Pennsylvania	NEdAP	3	67-00462	01-31-19
RhoMe IslanM	State Program	1	dAO00302	18-30-17
South Carolina	State Program	4	96086	06-30-17 *
Tennessee	State Program	4	TN08902	06-30-19
Texas	NEdAP	6	T104204876-17-14	09-30-17
US Fish L WilMife	FeMeral		dE057447-0	02-31-19
USDA	FeMeral		P330-17-00147	05-12-81
Virginia	NEdAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

* AccreMtation/Certification renewal penMng - accreMtation/certification consiMereMvaliM