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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

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Project TXR0943

January 2019

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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

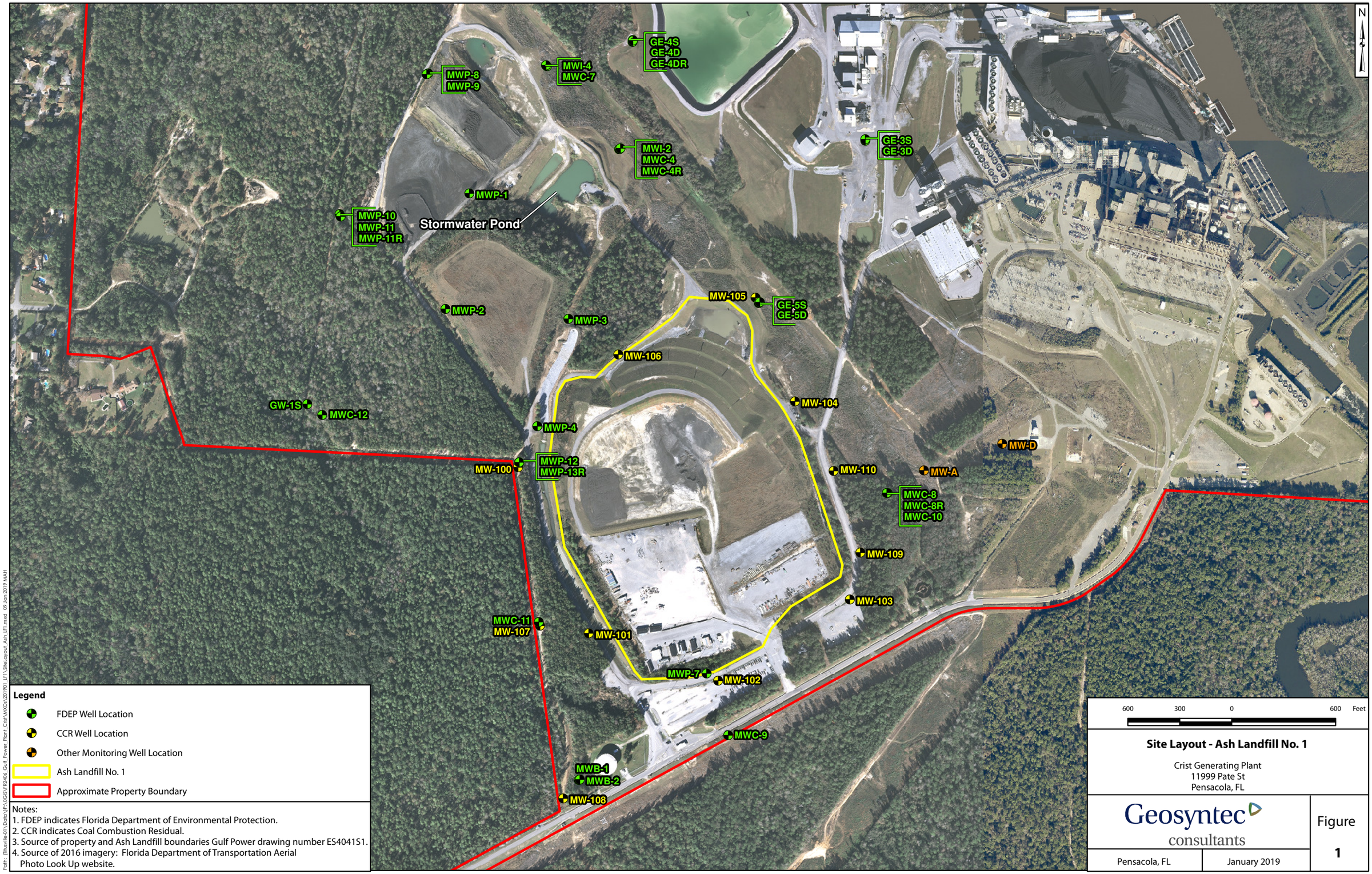
Gulf Power Company, Pensacola, Florida

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

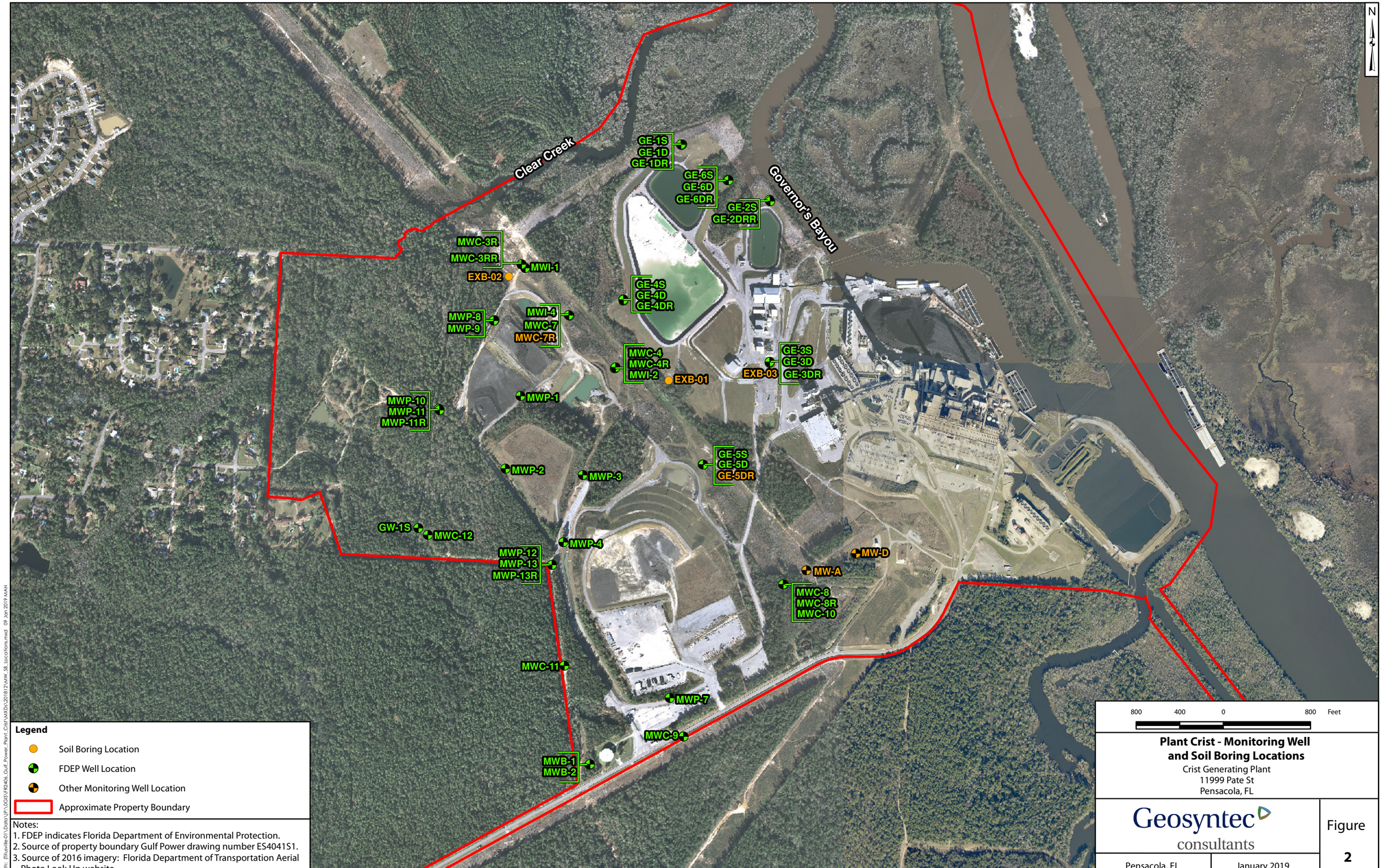
Crist Generating Plant
11999 Pate St
Pensacola, FL

Geosyntec consultants

Pensacola, FL | January 2019

Figure 1

Path: [filesville-01]:\Data\JP\JOBS\FP2406_Gulf Power_Plant_Crist\WXDs\201901_LF1\SiteLayout_Ash_LF1.mxd 09 Jan 2019 MAH



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

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Pensacola, FL | January 2019

Figure 2

Path: [Ifiaxville-01\Data\]P:\GGS\FR2406, Gulf, Power, Plant, Crist\MXD\201812\MW_SB_locations.mxd 09 Jan 2019 MAH

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

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

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

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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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **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 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **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 — **Client Sample ID: GE-5S/D-25'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **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 — **Client Sample ID: GE-5S/D-25'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **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. Fralat	8/14/2018 14:23	GEO		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

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

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

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

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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	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: 400-157728-2
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

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

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

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

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Method Summary

Client: Gulf Power Company
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: Molybdenum

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL PEN
3050B	Preparation, 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: 400-157728-3
SDG: Molybdenum

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: 400-157728-3
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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	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)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	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 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
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
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

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
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
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: 400-157728-3
SDG: Molybdenum

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
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
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

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

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
Matrix: Solid
Date Received: 08/14/18 14:23
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
Matrix: Solid
Date Received: 08/14/18 14:23
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: 400-157728-3
SDG: Molybdenum

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
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
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: 400-157728-3
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 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **Prep Batch: 408117**

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.199	U	0.994	0.199	mg/Kg		08/16/18 09:05	08/16/18 15:42	1

Lab Sample ID: LCS 400-408117/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **Prep Batch: 408117**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Molybdenum			99.5	111.8		mg/Kg		112	80 - 120		

Lab Sample ID: 400-157728-1 MS — **Client Sample ID: GE-5S/D-25'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **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		mg/Kg	☼	101	75 - 125		

Lab Sample ID: 400-157728-1 MSD — **Client Sample ID: GE-5S/D-25'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 408304 — **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		mg/Kg	☼	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
Project/Site: Plant Crist

TestAmerica Job ID: 400-157728-3
SDG: 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: 400-158570-1
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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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Case Narrative

Client: 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

Definitions/Glossary

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-1

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 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 6020	6010C - Molybdenum 6020	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~~ 6020 - SPLP Molybdenum	~~6010C~~ 6020 - Molybdenum	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: 400-158570-1
SDG Number:

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 & Molybdenum

TestAmerica Job ID: 400-158570-1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18 *
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18 *
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

* 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: 400-158570-2
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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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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

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Case Narrative

Client: 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 & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	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: 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 Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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: 400-158570-2
Date Collected: 08/31/18 10:40
Matrix: Solid
Date Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.588**		0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 20:28	5
Molybdenum	**0.00148**	**I**	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 20:28	5

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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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 Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.239**		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 10:56
Matrix: Solid
Date Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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-94
Lab Sample ID: 400-158570-7
Date Collected: 08/31/18 11:08
Matrix: Solid
Date Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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: 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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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: 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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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: 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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 14:32	5

Method: 6020 - Metals (ICP/MS) - SPLP East - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**1.04**		0.0125	0.00200	mg/L		09/14/18 08:03	09/17/18 15:23	25

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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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-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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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 12:00
Matrix: Solid
Date Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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-62

Lab Sample ID: 400-158570-18
Date Collected: 08/31/18 12:03
Matrix: Solid
Date Received: 08/31/18 12:55

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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: 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

Method: 6020 - Metals (ICP/MS) - SPLP East

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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 & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

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: 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 & Molybdenum

TestAmerica Job ID: 400-158570-2
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	0.05312		mg/L		106	80 - 120
Molybdenum	0.0500	0.04734		mg/L		95	80 - 120

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	0.04517		mg/L		90	80 - 120
Molybdenum	0.0500	0.04077		mg/L		82	80 - 120

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	0.00250	0.000400	mg/L		09/13/18 08:14	09/13/18 19:34	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/13/18 08:14	09/13/18 19:34	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	0.05307		mg/L		106	75 - 125
Molybdenum	0.000850	U	0.0500	0.04918		mg/L		98	75 - 125

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	0.05338		mg/L		107	75 - 125	1	20
Molybdenum	0.000850	U	0.0500	0.04899		mg/L		98	75 - 125	0	20

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	0.00250	0.000400	mg/L		09/14/18 08:03	09/17/18 13:56	5
Molybdenum	0.000850	U	0.0150	0.000850	mg/L		09/14/18 08:03	09/17/18 13:56	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	0.04569		mg/L		91	75 - 125

QC Sample Results

Client: Gulf Power Company
Project/Site: Cobalt & Molybdenum

TestAmerica Job ID: 400-158570-2
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		
Molybdenum	0.000850	U	0.0500	0.04322		mg/L		86	75 - 125		

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	0.04530		mg/L		91	75 - 125	1	20
Molybdenum	0.000850	U	0.0500	0.04182		mg/L		84	75 - 125	3	20

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 & Molybdenum

TestAmerica Job ID: 400-158570-2
SDG: SPLP

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18 *
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

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