

**Georgia Power Company  
Plant McIntosh Ash Pond 1  
Permit No. 051-011D(CCR)  
Effingham County**

**2020 SEMIANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT**





This *2020 Semiannual Groundwater Monitoring and Corrective Action Report*, Georgia Power Company – Plant McIntosh Ash Pond 1 has been prepared in compliance with the United States Environmental Protection Agency coal combustion rule [40 Code of Federal Regulations (CFR) 257 Subpart D] and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 by a qualified groundwater scientist or engineer with Atlantic Coast Consulting, Inc (ACC).

**ATLANTIC COAST CONSULTING, INC.**

A handwritten signature in black ink that reads 'William M. Malone'.

Matt Malone  
Project Scientist  
Date: August 31, 2020



Evan B. Perry,  
Project Manager  
Date: August 31, 2020

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## 1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (US EPA) coal combustion residual (CCR) rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D) and the Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management 391-3-4-.10, Atlantic Coast Consulting, Inc. (ACC), has prepared this *2020 Semiannual Groundwater Monitoring and Corrective Action Report* to document groundwater monitoring activities conducted at the Georgia Power Company (GPC) Plant McIntosh Ash Pond 1 (the Site or AP-1). To specify groundwater monitoring requirements, EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (US EPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D. For ease of reference, the US EPA CCR rules are cited within this report.

A permit application to comply with EPD Rules was submitted in November 2018 and was approved in February 2020. Monitoring for the CCR unit is performed in accordance with the permit monitoring requirements [EPD Permit No. 051-11D(CCR)], 40 CFR § 257.90 through 257.91 and § 257.93 through 257.95 of the Federal CCR rule, and the EPD Rules for Solid Waste Management 391-3-4-.10(6)(a).

This report documents activities completed for the groundwater monitoring program through the first half of the 2020 calendar year in accordance with 40 CFR § 257.90(e). This report includes results of the initial assessment and semi-annual assessment monitoring events conducted in January and March 2020, respectively, for AP-1.

### 1.1 Site Description and Background

Plant McIntosh is located at 981 Old Augusta Central Road, in Effingham County, Georgia, approximately 4 miles northeast of the City of Rincon, and 20 miles north of the City of Savannah. The plant is situated on approximately 2,300 acres (Figure 1, Site Location Map) west of the Savannah River. AP-1 is located on the eastern portion of the plant property.

### 1.2 Regional Geology and Hydrogeologic Setting

Plant McIntosh is located in the Atlantic Coastal Plain Physiographic Province and situated on sediments that were deposited from the Cretaceous to Pleistocene periods. Regional lithology consists of stratified marine deposits and materials eroded from crystalline rock of the Piedmont Physiographic Province. Boring logs describe soils as interbedded clays, silts, and sands typical of Atlantic Coastal Plain sediments.

Monitoring wells and piezometers are screened in the surficial aquifer between approximately 30 and -20 feet North American Vertical Datum of 1988 (NAVD88). The predominant groundwater flow direction across Plant McIntosh to the east.

### 1.3 Groundwater Monitoring System and CCR Unit Description

Pursuant to 40 CFR § 257.91, a groundwater monitoring system was installed within the uppermost aquifer at AP-1. The monitoring system is designed to monitor groundwater passing the waste boundary of the CCR Units within the uppermost aquifer. Figure 2, Well Location Map, shows the monitoring well locations. Wells were located to serve as upgradient and downgradient monitoring points based on groundwater flow direction (Table 1A, Groundwater Monitoring Network Well Construction Details, and Table 1B, Piezometer Construction Details).

## 2.0 GROUNDWATER MONITORING ACTIVITIES

Pursuant to 40 CFR § 257.90(e), the following describes monitoring-related activities performed during January through August 2020 and discusses any change in status of the monitoring program. All groundwater sampling was performed in accordance with 40 CFR § 257.93.

### 2.1 Monitoring Well Installation and Maintenance

There were no changes to the groundwater monitoring system during the semiannual reporting period; the network remained the same as in the 2019 (previous) reporting year and is shown on Figure 2. Monitoring well-related activities were limited to the following: visual inspection of well conditions prior to sampling, recording the site conditions, and performing exterior maintenance necessary for sampling under safe and clean conditions. Well inspection checklists completed during semiannual sampling is included in Appendix A, Laboratory Analytical and Field Sampling Reports.

The Site monitoring network wells and piezometers were re-surveyed for top of casing elevations and horizontal location in June 2020 to confirm the top of casing elevations. A data sheet surveyed by a Georgia Registered Land Surveyor is provided in Appendix B, Monitoring Well Survey Data.

### 2.2 Assessment Monitoring

Based on results of the *2017 Annual Groundwater and Corrective Action Monitoring Report*, GPC initiated an assessment monitoring program on January 15, 2018. A notice of assessment monitoring was placed in the operation record on May 15, 2018. Monitoring wells were sampled for Appendix IV parameters in January 2020 as the initial assessment monitoring event. Monitoring wells were sampled for Appendix III and detected Appendix IV parameters in March 2020 as the first semiannual assessment monitoring event. Samples were collected from the monitoring network shown on Figure 2. A summary of groundwater sampling events completed during the semiannual period is provided in Table 2, Groundwater Sample Event Summary. Results of sampling activities are presented in Appendix A.

## 3.0 SAMPLE METHODOLOGY & ANALYSIS

The following sections describe the methods used to conduct groundwater monitoring at the Site.

### 3.1 Groundwater Flow Direction, Gradient, and Velocity

Prior to each sampling event, groundwater levels were measured and recorded to the nearest 0.01 foot within a 24-hour period from the certified well network and piezometers at the Site. Groundwater levels recorded during the monitoring events are summarized in Table 3, Summary of Groundwater Elevations. Groundwater levels and top of casing elevations were used to calculate groundwater elevations and develop the potentiometric surface elevation contour maps provided in Figures 3 and 4, Potentiometric Contour Map – January and March 2020, respectively. The general direction of groundwater flow across AP-1 is toward the east but shifts to the southeast and northeast in the northern portion of AP-1. The groundwater flow patterns observed during the 2020 monitoring events are consistent with historical observations.

The horizontal groundwater flow velocity at the site was calculated using a derivation of Darcy's Law.

Specifically:

Equation

$$v = \frac{K (dh/dl)}{P_e} \quad \text{where:} \quad \begin{array}{l} v = \text{groundwater velocity} \\ K = \text{hydraulic conductivity} \\ dh/dl = \text{hydraulic gradient} \\ P_e = \text{effective porosity} \end{array}$$

Groundwater flow velocities were calculated for the Site based on hydraulic gradients, average hydraulic conductivity based on previous slug test data, and an estimated effective porosity of 0.20 (based on the default value for silty sands, US EPA, 1989). Groundwater flow velocities have been calculated and are tabulated on Tables 4A and 4B, Horizontal Groundwater Flow Velocity Calculations – January and March 2020, respectively. The calculated flow velocities ranged from 0.043 and 0.046 feet per day for the two events.

### 3.2 Groundwater Sampling

Groundwater samples were collected using low-flow sampling procedures in accordance with 40 CFR § 257.93(a). Purging and sampling was performed using either a peristaltic pump or non-dedicated QED bladder pump. In all cases pump intakes were located at the midpoint of the well screen (or as appropriate determined by the water level). All non-disposable equipment was decontaminated before use and between well locations using procedures described in the latest version of the Region 4 US EPA SESD Operating Procedure for Field Equipment Cleaning and Decontamination as a guide.

Monitoring wells were purged and sampled using low-flow sampling procedures. A SmarTroll (In-Situ field instrument) was used to monitor and record field water quality parameters (pH, conductivity, oxidation-reduction potential, dissolved oxygen [DO], and temperature) during well purging prior to sampling. Turbidity was measured using a LaMotte 2020we portable turbidity meter. Groundwater samples were collected when the following stabilization criteria were met:

- ± 0.1 standard units for pH
- ± 5% for specific conductance
- ± 10% for DO where DO > 0.5 mg/L. No criterion applies if DO < 0.5 mg/L.
- Turbidity measurements less than 10 nephelometric turbidity units (NTUs)

Once stabilization was achieved, samples were collected directly into appropriately preserved laboratory-supplied sample containers. Sample bottles were placed in ice-packed coolers and submitted to Eurofins TestAmerica, Inc. (Eurofins) in Pittsburgh, Pennsylvania following chain-of-custody protocol. Stabilization logs for each well during each monitoring event are included in Appendix A.

### 3.3 Laboratory Analyses

Groundwater samples were collected during two groundwater monitoring events in the first half of 2020. Analytical methods used for groundwater sample analysis are listed on the analytical laboratory reports included in Appendix A. Samples were analyzed for Appendix III and IV parameters detected above the laboratory method detection limit (MDL) during the January 2020 event in accordance with 40 CFR § 257.95(b). The only parameter not detected above the laboratory MDL during the January 2020 event was selenium.

Analytical data collected in 2020 monitoring events (January 2020 and March 2020) are summarized in Tables 5A and 5B, Summary of Groundwater Analytical Data – January 2020 and March 2020, respectively.

Laboratory analyses were performed by Eurofins. Eurofins is accredited by the National Environmental Laboratory Accreditation Program (NELAP) and maintains a NELAP certification for all parameters analyzed for this project. In addition, Eurofins is certified to perform analysis by the State of Georgia. Laboratory reports and chain-of-custody records for the monitoring events are presented in Appendix A.

### **3.4 Quality Assurance and Quality Control**

During each sampling event, quality assurance/quality control (QA/QC) samples are collected at a rate of one set of QA/QC samples per every 10 assessment samples. A set of QA/QC samples includes equipment blanks, field blanks, and duplicate samples. QA/QC sample data were evaluated during data validation and are included in Appendix A.

Groundwater quality data in this report were validated in accordance with US EPA guidance (US EPA, 2011) and the analytical methods. Data validation generally consisted of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, matrix spikes/matrix spike duplicate recoveries and relative percent differences, post digestion spikes, laboratory and field duplicate relative percent differences (RPD), field and equipment blanks, and reporting limits. A summary of the data validation is included in Appendix A.

Values followed by a "J" flag in Tables 5A and 5B indicate that the value is an estimated analyte concentration detected between the MDL and the laboratory reporting limit (RL). The estimated value is positively identified, but is below the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine laboratory operating conditions.

## **4.0 STATISTICAL ANALYSIS**

Groundwater monitoring data collected during March 2020 semiannual assessment monitoring events were statistically analyzed by Groundwater Stats Consulting, LLC pursuant to 40 CFR § 257.95 following the PE-certified statistical method. Appendix III detection monitoring parameters were statistically analyzed to determine if constituents have returned to background levels. Appendix IV assessment monitoring parameters were evaluated to determine if concentrations statistically exceeded the established groundwater protection standard (GWPS). Statistical analysis methods and results are provided in Appendix C, Statistical Analysis Report. The following subsections and Table 6, Statistical Method Summary provide an overview of the statistical method used to evaluate Appendix III and IV parameters and statistical analyses results.

### **4.1 Statistical Analysis Methods**

The Sanitas groundwater statistical software was used to perform the statistical analyses. Sanitas is a decision-support software package, that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the USEPA document *Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance* (Unified Guidance) (USEPA, 2009).

#### 4.1.1 Appendix III Statistical Methods

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

In 1-of-2 verification resampling, one independent resample may be collected and evaluated within 90 days to determine whether the initial exceedance is verified. If the resample exceeds the prediction limit, the initial exceedance is verified, and a statistically significant increase (SSI) is identified. When a re-sample result does not verify the initial result, and does not exceed the prediction limit, there is no SSI. If resampling is not performed, the initial exceedance is a confirmed exceedance.

#### 4.1.2 Appendix IV Statistical Methods

Constituents detected during the initial annual Appendix IV sampling event (January 2020) were sampled during the March 2020 semiannual sampling event. To statistically compare groundwater data to GWPS, confidence intervals are constructed for each of the detected Appendix IV parameters in each downgradient well. Those confidence intervals are compared to both the state and federal GWPS. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its GWPS. If there is an exceedance of the established standard, a statistically significant level (SSL) exceedance is identified.

USEPA revised the federal CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum. As described in 40 CFR § 257.95(h)(1-3), the GWPS is:

- (1) The maximum contaminant level (MCL) established under 40 CFR § 141.62 and 141.66.
- (2) Where an MCL has not been established:
  - (i). Cobalt 0.006 mg/L;
  - (ii). Lead 0.015 mg/L;
  - (iii). Lithium 0.040 mg/L; and
  - (iv). Molybdenum 0.100 mg/L.
- (3) Background levels for constituents where the background level is higher than the MCL or rule-specified GWPS.

USEPA's updated GWPS have not yet been incorporated under Georgia EPD's CCR Rule. The Georgia EPD CCR Rule GWPS is:

- (1) The federally established MCL.
- (2) Where an MCL has not been established, the background concentration.
- (3) Background levels for constituents where the background level is higher than the MCL.

Following the above federal and state rule requirements, GWPS have been established for statistical comparison of Appendix IV constituents. Table 7, Summary of Background Levels and Groundwater Protection Standards, summarizes the background limit established at each monitoring well and the GWPS established under State and Federal rules.

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A substitution of the most recent reporting limit is used for non-detect data. Selenium was not detected during the initial assessment event conducted in

January 2020 and, therefore, no sampling or statistical analysis was required for this parameter. Additional details are presented in the Statistical Analysis Report provided in Appendix C.

## 4.2 Statistical Analysis Results

### 4.2.1 First Semiannual Appendix III Statistical Results

Based on review of the Appendix III statistical analysis presented in Appendix C, Appendix III constituents have not returned to background levels. Exceedances were noted and are presented on the prediction limit summary table included in Appendix C. Assessment monitoring should continue pursuant to 40 CFR § 257.95(f).

### 4.2.2 First Semiannual Appendix IV Statistical Results

Based on review of the Appendix IV statistical analysis presented in Appendix C, the following parameters were found to exceed the GWPS:

AP-1 (Federal CCR Rule):

- Cobalt: MGWC-7
- Lithium: MGWC-7

AP-1 (Georgia EPD CCR Rule)

- Cobalt: MGWC-2, MGWC-7, and MGWC-8
- Lithium: MGWC-7

The March 2020 statistical evaluation results are consistent with the 2019 reporting year statistical results.

## 5.0 MONITORING PROGRAM STATUS

In accordance with 40 CFR § 257.94(e), GPC implemented assessment monitoring in May 2018. SSIs of Appendix III and SSLs of Appendix IV parameters were identified at the Site during the sampling event conducted in March 2020. An alternate source demonstration (ASD) for cobalt and lithium was included in the *2018 Annual Groundwater Monitoring and Corrective Action Report*, and later supported by the *Supplemental Information for the Ash Pond 1 Alternate Source Demonstration*, dated November 21, 2019. The demonstration showed the source of cobalt and lithium in groundwater is not due to a release from the unit. The Site remains in assessment monitoring due to SSIs for Appendix III parameters.

## 6.0 CONCLUSIONS & FUTURE ACTIONS

This *2020 Semiannual Groundwater Monitoring and Corrective Action Report* for GPC's Plant McIntosh AP-1 was prepared to fulfill the requirements of USEPA's CCR Rule and Georgia EPD Rules for Solid Waste Management Chapter 391-3-4-.10.

Statistical evaluations of the groundwater monitoring data for the Site identified SSIs of Appendix III groundwater monitoring parameters and SSLs of cobalt and lithium. In accordance with 40 CFR § 257.95(g)(3), GPC prepared an ASD for cobalt and lithium in 2018 that concludes the state and federal SSLs for cobalt and lithium are not due to a release from the unit.



Based on the findings presented, AP-1 will remain in assessment monitoring. The next semiannual assessment monitoring event is tentatively scheduled for September 2020.

## 7.0 REFERENCES

- Georgia Power Company, 2019, *Supplemental Information for the Ash Pond 1 Alternate Source Demonstration*, November 21, 2019
- Georgia Environmental Protection Division, 1997 – *Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia – Circular 14*.
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- Southern Company Services - Earth Science and Environmental Engineering (SCS ES&EE), 2002. Savannah Electric Plant McIntosh Proposed Ash Monofill Site Acceptability Report. July 2002.
- U.S. EPA Waste Management Division Office of Solid Waste, 1989, EPA 530/SW89-031 Interim Final RCRA Investigation (RFI) Guidance, Volume II or IV.
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- U.S. EPA, 2013, Groundwater Sampling – Operating Procedure: SESDPROC-3-1-R3, Athens, Georgia, 31 p.
- U.S. EPA, 2015, Field Equipment Cleaning and Decontamination – Operating Procedure: SESDPROC-205-R3, Athens, Georgia, 18 p.
- U.S. EPA, 2017. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, Office of Superfund Remediation and Technology Innovation. OLEM 9355.0-135 [EPA-540-R-2017-001]. Washington, DC.

## TABLES





**Table 1A**  
**Groundwater Monitoring Network Well Construction Details**

Well	Installation Date (mm/dd/yyyy)	Northing	Easting	Bottom Depth (ft BTOC)	Bottom of Screen Elevation (NAVD)	Depth to Top of Screen (ft BTOC)	Top of Screen Elevation (NAVD)	Purpose
MGWC-1	11/10/2015	856813.23	964287.35	56.08	9.45	45.78	19.45	Downgradient
MGWC-2	11/11/2015	856400.69	963958.38	37.36	11.48	27.06	21.48	Downgradient
MGWC-3	11/11/2015	856033.79	963658.28	38.74	14.21	28.44	24.21	Downgradient
MGWA-5	11/12/2015	855860.82	962763.17	63.09	1.57	52.79	11.57	Upgradient
MGWA-6	11/12/2015	856527.73	963130.08	41.93	19.45	31.63	29.45	Upgradient
MGWA-6A	01/16/2019	856520.82	963113.65	39.70	20.36	29.40	30.36	Upgradient
MGWC-7	11/13/2015	857417.68	964007.53	42.29	12.41	31.99	22.41	Downgradient
MGWC-8	11/10/2015	857177.10	964141.67	52.56	10.35	42.26	20.35	Downgradient
MGWA-10	11/17/2015	855934.25	961406.49	53.09	12.28	42.79	22.28	Upgradient
MGWA-11	05/27/2016	855985.31	962070.22	55.81	9.30	45.61	19.30	Upgradient
MGWC-12	05/26/2016	855545.67	963110.24	52.90	11.40	42.70	21.40	Downgradient

Notes:

1. ft BTOC indicates feet below top of casing.
2. Northings and Eastings are feet relative to North American Datum 1983 (NAD83), State Plane Georgia East Zone
3. NAVD elevations are feet relative to North American Vertical Datum of 1988.
4. Wells resurveyed June 2020.



**Table 1B  
 Piezometer Construction Details**

Well	Installation Date (mm/dd/yyyy)	Northing	Easting	Bottom Depth (ft BTOC)	Bottom of Screen Elevation (NAVD)	Depth to Top of Screen (ft BTOC)	Top of Screen Elevation (NAVD)	Purpose
MGWC-4	11/18/2015	855555.05	963139.37	67.35	-2.72	57.05	7.28	Downgradient Piezometer
MGWA-9	11/17/2015	857129.70	963164.58	43.05	16.54	32.75	26.54	Upgradient Piezometer
PZ-13	06/03/2016	856123.86	964192.52	26.76	14.55	16.36	24.55	Downgradient Piezometer
PZ-14	06/04/2016	855727.20	963895.98	41.50	6.01	31.10	16.01	Downgradient Piezometer
PZ-15	06/26/2018	856156.03	964192.45	28.87	13.80	18.57	23.80	Downgradient Piezometer
PZ-16	06/26/2018	857077.14	964957.28	42.39	12.62	32.09	22.62	Downgradient Piezometer
PZ-17	06/27/2018	857655.05	964525.72	45.12	12.69	34.82	22.69	Downgradient Piezometer
PZ-18	06/27/2018	857542.34	963505.91	41.70	12.08	31.40	22.08	Upgradient Piezometer
MGWC-19	10/04/2018	857406.16	963972.44	72.70	-18.42	62.40	-8.42	Downgradient Deep Piezometer
MGWC-20	10/03/2018	857596.86	964281.59	54.77	-2.91	44.47	7.09	Downgradient Piezometer
MGWC-21	11/28/2018	857159.04	964155.30	82.68	-19.73	72.38	-9.73	Downgradient Deep Piezometer
MGWC-22	11/29/2018	856381.60	963948.23	67.56	-19.73	57.26	-9.73	Downgradient Deep Piezometer
MGWC-23	11/30/2018	856940.45	964617.96	42.90	14.87	32.60	24.87	Downgradient Piezometer
MGWA-24	01/17/2019	856600.28	962885.22	47.00	14.73	35.80	24.73	Upgradient Piezometer

Notes:

1. ft BTOC indicates feet below top of casing.
2. Northings and Eastings are feet relative to North American Datum 1983 (NAD83), State Plane Georgia East Zone
3. NAVD elevations are feet relative to North American Vertical Datum of 1988.
4. Wells resurveyed June 2020.

**Table 2**  
**Groundwater Sampling Event Summary**

Well	Hydraulic Location	Jan. 28-29, 2020	Mar. 9-10, 2020
Purpose of Sampling Event		Initial Assessment	Semiannual Assessment
MGWC-1	Downgradient	X	X
MGWC-2	Downgradient	X	X
MGWC-3	Downgradient	X	X
MGWA-5	Upgradient	X	X
MGWA-6	Upgradient	X	X
MGWA-6A	Upgradient	X	X
MGWC-7	Downgradient	X	X
MGWC-8	Downgradient	X	X
MGWA-10	Upgradient	X	X
MGWA-11	Upgradient	X	X
MGWC-12	Downgradient	X	X

Notes:

1. X indicates sampled was collected.
2. Initial Assessment Event included all Appendix IV analytes.
3. Semiannual Assessment Event Appendix III and Detected Appendix IV.

**Table 3**  
**Summary of Groundwater Elevations**

Well ID	Top of Casing Elevation (NAVD)	January 29, 2020 Groundwater Elevation (NAVD)	March 9, 2020 Groundwater Elevation (NAVD)
MGWC-1	65.23	27.91	27.53
MGWC-2	48.54	28.52	28.83
MGWC-3	52.65	35.39	35.64
MGWC-4	64.33	39.09	39.53
MGWA-5	64.36	42.48	43.16
MGWA-6	61.08	41.38	42.42
MGWA-6A	59.76	41.43	42.46
MGWC-7	54.40	33.91	35.17
MGWC-8	62.61	32.20	32.36
MGWA-9	59.29	38.90	40.68
MGWA-10	65.07	48.53	49.65
MGWA-11	64.91	44.85	45.80
MGWC-12	64.10	39.22	39.67
PZ-13	40.91	23.90	24.26
PZ-14	47.11	30.05	30.41
PZ-15	42.37	23.85	24.22
PZ-16	54.71	22.30	22.58
PZ-17	57.51	27.00	27.20
PZ-18	53.48	34.82	36.88
MGWC-19	53.98	32.49	33.45
MGWC-20	51.56	29.96	30.86
MGWC-21	62.65	31.26	31.73
MGWC-22	47.53	40.44	30.71
MGWC-23	57.47	24.26	24.43
MGWA-24	60.53	41.96	43.31

Notes:

1. NAVD indicates feet North American Vertical Datum of 1988.
2. Depths to water measured January 29 and March 9, 2020.
3. Wells resurveyed June 2020.

**Table 4A**  
**HORIZONTAL GROUNDWATER FLOW VELOCITY CALCULATIONS**  
**January 2020**

Equation

$$v = \frac{K ( dh/dl )}{P_e} \quad \text{where: } \begin{array}{l} v = \text{ground water velocity} \\ K = \text{hydraulic conductivity} \\ dh/dl = \text{hydraulic gradient} \\ P_e = \text{effective porosity} \end{array}$$

Values Used in Calculation

Value	Source
K = 3.4E-04 cm/sec 0.96 ft/day	See note 1.
i <sub>1</sub> = 0.0088 unitless i <sub>2</sub> = 0.010 unitless i <sub>3</sub> = 0.0082 unitless dh/dl = 0.0090 unitless	Hydraulic gradient from MGWA-10 to PZ-15 MGWA-6 to PZ-16 MGWA-9 to PZ-17 Average of i <sub>1</sub> , i <sub>2</sub> , i <sub>3</sub>
P <sub>e</sub> = 0.20 unitless	See note 2.

Calculated Flow Velocity

$$v = \frac{0.0087}{0.20}$$

$$v = 0.043 \text{ ft/day, or } 16 \text{ ft/year}$$

Notes

- (1) Slug tests performed by Southern Company Services, Inc. (2002)
- (2) Default value for silty sands from Interim Final RCRA Investigation (EPA, 1989)

**Table 4B  
 HORIZONTAL GROUNDWATER FLOW VELOCITY CALCULATIONS  
 March 2020**

Equation

$$v = \frac{K ( dh/dl )}{P_e}$$

where: v = ground water velocity  
 K = hydraulic conductivity  
 dh/dl = hydraulic gradient  
 P<sub>e</sub> = effective porosity

Values Used in Calculation

Value	Source
K = 3.4E-04 cm/sec 0.96 ft/day	See note 1.
i <sub>1</sub> = 0.0091 unitless i <sub>2</sub> = 0.010 unitless i <sub>3</sub> = 0.0092 unitless dh/dl = 0.0096 unitless	Hydraulic gradient from MGWA-10 to PZ-15 MGWA-6 to PZ-16 MGWA-9 to PZ-17 Average of i <sub>1</sub> , i <sub>2</sub> , i <sub>3</sub>
P <sub>e</sub> = 0.20 unitless	See note 2.

Calculated Flow Velocity

$$v = \frac{0.0092}{0.20}$$

$$v = 0.046 \text{ ft/day, or } 17 \text{ ft/year}$$

Notes

- (1) Slug tests performed by Southern Company Services, Inc. (2002)
- (2) Default value for silty sands from Interim Final RCRA Investigation (EPA, 1989)

**Table 5A**  
**Plant McIntosh Ash Pond 1**  
**Summary of Groundwater Analytical Data**  
**January 2020**

Substance		Well ID							
		MGWA-5	MGWA-6	MGWA-6A	MGWA-10	MGWA-11	MGWC-1	MGWC-2	MGWC-3
		1/28/2020	1/28/2020	1/28/2020	1/28/2020	1/28/2020	1/29/2020	1/29/2020	1/29/2020
APPENDIX IV	<b>Antimony</b>	<0.00038	<0.00038	<0.00038	0.00049 J	<0.00038	<0.00038	<0.00038	<0.00038
	<b>Arsenic</b>	0.00036 J	0.0063	0.0028	<0.00031	0.0014	0.0021	0.00040 J	0.0017
	<b>Barium</b>	0.034	0.034	0.037	0.025	0.13	0.11	0.051	0.15
	<b>Beryllium</b>	<0.00018	<0.00018	<0.00018	<0.00018	0.00040 J	0.00018 J	<0.00018	0.00031 J
	<b>Cadmium</b>	<0.00022	<0.0002	<0.00022	<0.00022	<0.00022	<0.00022	0.0054	<0.00022
	<b>Chromium</b>	<0.0015	<0.0015	<0.0015	0.0044	<0.0015	<0.0015	<0.0015	<0.0015
	<b>Cobalt</b>	<0.00013	0.00041 J	0.00024 J	<0.00013	<0.00013	0.00027 J	0.0030	0.00067
	<b>Lead</b>	0.00018 J	<0.00013	<0.00013	<0.00013	0.00016 J	<0.00013	<0.00013	<0.00013
	<b>Lithium</b>	0.0093	<0.0034	<0.0034	0.0064	0.026	0.0096	0.0059	0.012
	<b>Mercury</b>	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	<b>Molybdenum</b>	0.00095 J	<0.00061	0.0014 J	0.00064 J	0.00085 J	0.0015 J	<0.00061	<0.00061
	<b>Radium (226 + 228)</b>	0.0677 U	0.374 U	0.0609 U	0.322 U	0.528	1.39	0.0985 U	1.44
<b>Selenium</b>	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	
<b>Thallium</b>	<0.00015	0.00027 J	<0.00015	<0.00015	0.00033 J	0.00032 J	0.00021 J	0.00037 J	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
6. Appendix IV = parameters evaluated during Assessment Monitoring.
7. Fluoride not analyzed in initial assessment event; added to all wells during semiannual monitoring event.

**Table 5A**  
**Plant McIntosh Ash Pond 1**  
**Summary of Groundwater Analytical Data**  
**January 2020**

Substance	Well ID			
	MGWC-7	MGWC-8	MGWC-12	
	1/28/2020	1/29/2020	1/28/2020	
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.00038	<0.00038	<0.00038
	<b>Arsenic</b>	0.00046 J	0.00047 J	0.00051 J
	<b>Barium</b>	0.012	0.033	0.069
	<b>Beryllium</b>	<0.00018	0.0019	<0.00018
	<b>Cadmium</b>	<0.00022	0.00090 J	<0.00022
	<b>Chromium</b>	0.0015 J	<0.0015	<0.0015
	<b>Cobalt</b>	0.0080	0.025	<0.00013
	<b>Lead</b>	<0.00013	<0.00013	<0.00013
	<b>Lithium</b>	0.13	0.037	0.022
	<b>Mercury</b>	<0.00010	0.00012 J	<0.00010
	<b>Molybdenum</b>	<0.00061	<0.00061	<0.00061
	<b>Radium (226 + 228)</b>	1.38	1.61	0.465
	<b>Selenium</b>	<0.0015	<0.0015	<0.0015
<b>Thallium</b>	<0.00015	0.00042 J	<0.00015	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
6. Appendix IV = parameters evaluated during Assessment Monitoring.
7. Fluoride not analyzed in initial assessment event; added to all wells during semiannual monitoring event.



**Table 5B**  
**Plant McIntosh Ash Pond 1**  
**Summary of Groundwater Analytical Data**  
**March 2020**

Substance		Well ID							
		MGWA-5	MGWA-6	MGWA-6A	MGWA-10	MGWA-11	MGWC-1	MGWC-2	MGWC-3
		3/10/2020	3/10/2020	3/10/2020	3/9/2020	3/9/2020	3/10/2020	3/10/2020	3/10/2020
APPENDIX III	<b>Boron</b>	<0.039	0.051 J	<0.039	0.045 J	<0.039	1.9	2.3	1.3
	<b>Calcium</b>	29	100	90	4.0	32	120	110	110
	<b>Chloride</b>	5.4	5.1	4.0	7.4	4.5	14	12	15
	<b>Fluoride</b>	0.055 J	0.045 J	0.048 J	0.061 J	0.19	0.086 J	0.050 J	0.058 J
	<b>pH</b>	7.30	7.00	7.04	5.46	7.58	7.11	7.30	6.87
	<b>Sulfate</b>	5.2	5.0	2.4	4.2	3.4	140	170	130
	<b>TDS</b>	170	300	260	56	190	450	540	390
APPENDIX IV	<b>Antimony</b>	<0.00038	<0.00038	<0.00038	<0.00038	<0.00038	<0.0019	<0.00038	<0.00038
	<b>Arsenic</b>	0.00031 J	0.0093	0.0029	<0.00031	0.00073 J	0.0019	<0.0016	<0.0016
	<b>Barium</b>	0.043	0.031	0.035	0.023	0.094	0.13	0.049	0.15
	<b>Beryllium</b>	<0.00018	<0.00018	<0.00018	0.00045 J	0.00018 J	<0.00091	<0.00018	<0.00018
	<b>Cadmium</b>	<0.00022	<0.00022	<0.00022	0.00023 J	<0.00022	<0.0011	0.0011 J	<0.00022
	<b>Chromium</b>	<0.0015	<0.0015	<0.0015	0.0042	<0.0015	<0.0077	<0.0015	<0.0015
	<b>Cobalt</b>	<0.00013	0.00038 J	0.00032 J	<0.00013	<0.00013	<0.00067	0.0024 J	0.00050 J
	<b>Fluoride</b>	0.055 J	0.045 J	0.048 J	0.061 J	0.19	0.086 J	0.050 J	0.058 J
	<b>Lead</b>	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00064	<0.00013	<0.00013
	<b>Lithium</b>	0.011	<0.0034	<0.0034	0.0088	0.017	<0.017	0.0068	0.014
	<b>Mercury</b>	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	<b>Molybdenum</b>	0.00093 J	<0.00061	0.0012 J	<0.00061	0.0012 J	<0.0031	<0.00061	<0.00061
	<b>Radium (226 + 228)</b>	0.0594 U	0.410 U	0.528	0.761	0.00483 U	1.40	0.589	1.32
<b>Thallium</b>	0.00015 J	0.00019 J	<0.00015	0.00058 J	0.00036 J	<0.00074	<0.00015	0.00016 J	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Results for pH are reported in standard units (S.U.). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value.  
Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.

**Table 5B**  
**Plant McIntosh Ash Pond 1**  
**Summary of Groundwater Analytical Data**  
**March 2020**

Substance		Well ID		
		MGWC-7	MGWC-8	MGWC-12
		3/10/2020	3/10/2020	3/10/2020
APPENDIX III	<b>Boron</b>	1.4	4.0	<0.039
	<b>Calcium</b>	55	100	30
	<b>Chloride</b>	10	12	4.1
	<b>Fluoride</b>	0.18	0.084 J	0.15
	<b>pH</b>	6.54	5.50	7.53
	<b>Sulfate</b>	170	370	7.8
	<b>TDS</b>	370	600	170
APPENDIX IV	<b>Antimony</b>	<0.00038	<0.00038	<0.00038
	<b>Arsenic</b>	<0.0016	<0.0016	<0.00031
	<b>Barium</b>	0.013	0.036	0.056
	<b>Beryllium</b>	<0.00018	0.0013 J	<0.00018
	<b>Cadmium</b>	<0.00022	0.0011 J	<0.00022
	<b>Chromium</b>	<0.0015	<0.0015	<0.0015
	<b>Cobalt</b>	0.0081	0.017	<0.00013
	<b>Fluoride</b>	0.18	0.084 J	0.15
	<b>Lead</b>	<0.00013	<0.00013	<0.00013
	<b>Lithium</b>	0.11	0.028	0.018
	<b>Mercury</b>	<0.00010	<0.00010	<0.00010
	<b>Molybdenum</b>	<0.00061	<0.00061	<0.00061
	<b>Radium (226 + 228)</b>	0.903	1.95	0.340 U
<b>Thallium</b>	<0.00015	0.00025 J	0.00015 J	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Results for pH are reported in standard units (S.U.). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value.  
Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring.

**Table 6**  
**Statistical Method Summary**

<b>Plant McIntosh AP-1 Statistical Method Summary</b>		
Monitoring Well Network	Upgradient Wells	MGWA-5, MGWA-6, MGWA-6A, MGWA-10, and MGWA-11
	Downgradient Wells	MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8, and MGWC-12
CCR Monitoring Parameters	Appendix III (Detection Monitoring)	Boron, Calcium, Chloride, Fluoride, pH, Sulfate, and TDS
	Appendix IV (Assessment Monitoring)	Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, combined Radium 226 + 228, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, and Thallium
Statistical Methodology	Data Screening Proposed Background	Evaluate outliers, trends, and seasonality when sufficient data are available
	Statistical Limits	Interwell statistical limits

**Table 7**  
**Summary of Background Levels and Groundwater Protection Standards**

Constituent	Site Background	Federal GWPS	State GWPS
Antimony	0.002	0.006	0.006
Arsenic	0.035	0.035	0.035
Barium	0.13	2	2
Beryllium	0.0025	0.004	0.004
Cadmium	0.0025	0.005	0.005
Chromium	0.0063	0.1	0.1
Cobalt	0.0025	0.006	0.0025
Fluoride	0.19	4	4
Lead	0.001	0.015	0.001
Lithium	0.030	0.040	0.030
Mercury	0.0002	0.002	0.002
Molybdenum	0.015	0.1	0.015
Radium (226+228)	1.1	5	5
Selenium	0.005	0.050	0.050
Thallium	0.001	0.002	0.002

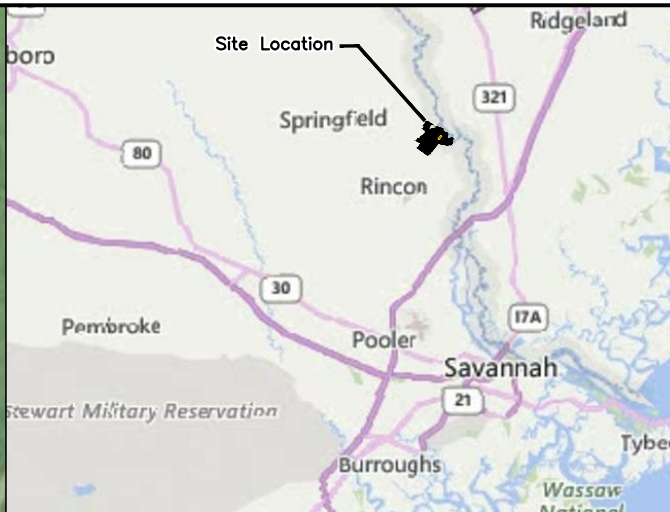
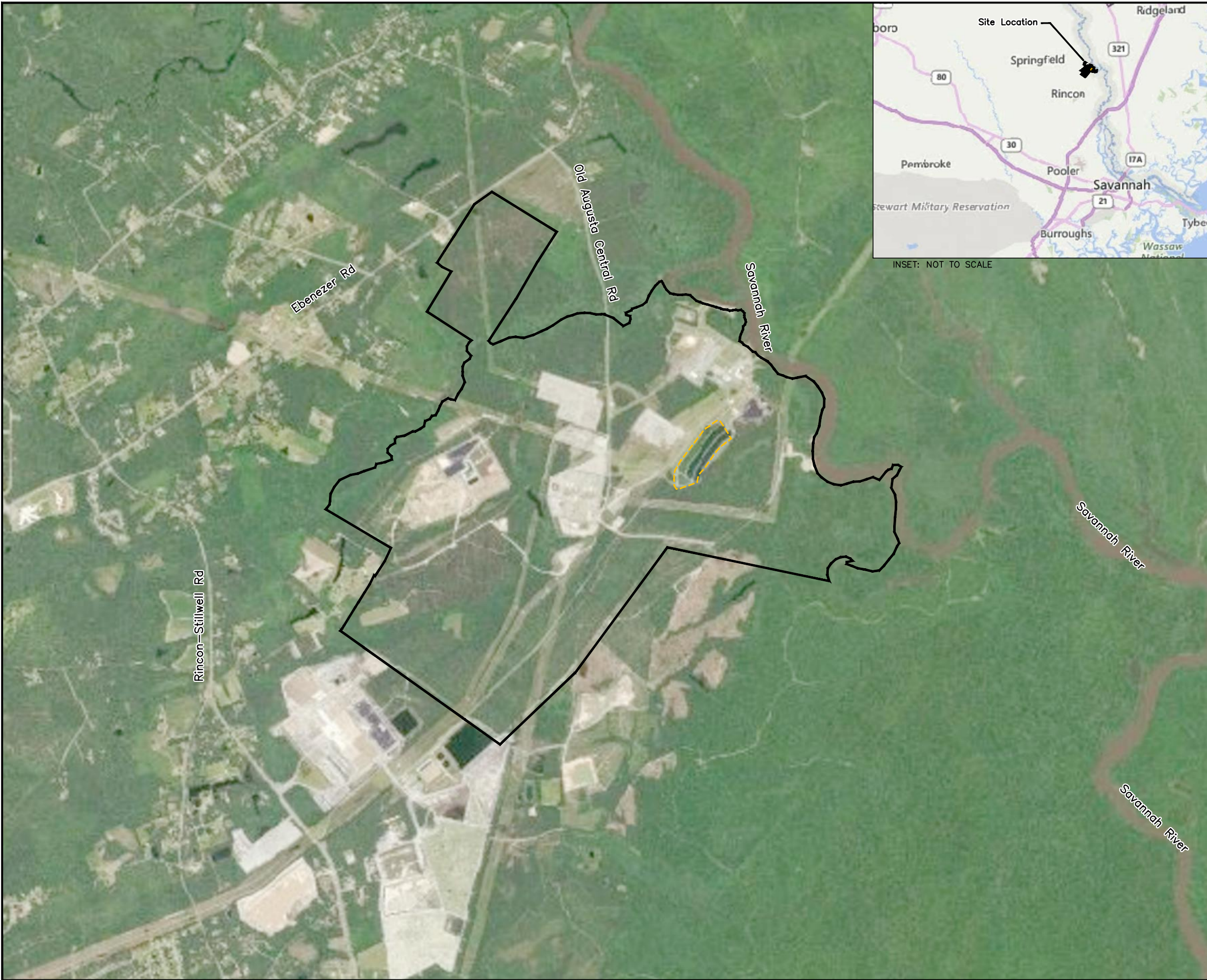
Notes:

1. Site Background = Tolerance limits calculated from pooled upgradient well data.
2. Federal GWPS = Groundwater protection standard, per 257.95(h)(1-3).
3. State GWPS = Groundwater protection standard, per Georgia EPD Rule 391-3-4-.10(6)(a).
4. Units are milligrams per liter (mg/L), except for radium, which are picocuries per liter.

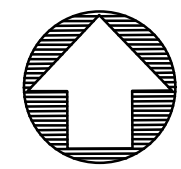
## FIGURES



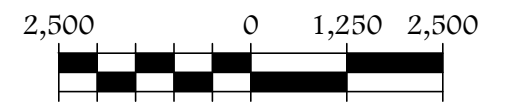
\\ATLANTA\Projects\Inland\110-Southern Company\110-Groundwater Consulting Services\Plant McIntosh\2-ap-1 GW Sampling And Reporting\2020 AP-1 GWA\2020 1st SA DWG\Plant McIntosh AP - Site Location Map.dwg 8/4/20 EVAN PERRY



INSET: NOT TO SCALE



ATLANTIC COAST CONSULTING, INC.



SCALE (IN FEET)

### LEGEND:

EXISTING	DESCRIPTION
	APPROXIMATE PROPERTY BOUNDARY
	APPROXIMATE AP-1 BOUNDARY

#### PROJECT



GEORGIA POWER COMPANY  
PLANT McINTOSH

#### SITE LOCATION MAP

PROJECT NO. I054-110

June 2020

DRAWN BY: MM

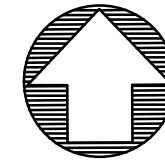
FIGURE:

CHECKED BY: EP

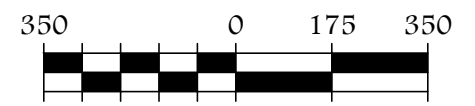
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\\ATLANTA\Projects\Inland\GIS-Southern Company\110-Groundwater Consulting Services\Plant McIntosh\2-up GW Sampling And Reporting\2020 AP-1 GWA\2020 1st SA\DWG\Plant McIntosh AP - Well Location Map.dwg 8/4/20 EVAN PERRY



ATLANTIC COAST  
CONSULTING, INC.



SCALE (IN FEET)

**LEGEND:**

EXISTING	DESCRIPTION
	APPROXIMATE AP-1 BOUNDARY
	MGWC-1 NETWORK MONITORING WELL
	PZ-17 PIEZOMETER

PROJECT



GEORGIA POWER COMPANY  
PLANT McINTOSH  
ASH POND 1

WELL LOCATION MAP

PROJECT NO. IO54-110

JUNE 2020

DRAWN BY: MM

FIGURE:

CHECKED BY: EP

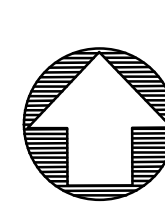
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Summary of Groundwater Elevations  
Plant McIntosh  
Ash Pond 1  
January 2020 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft NAVD)	Depth to Water (ft BTOC)	Groundwater Elevation (ft NAVD)
MGWC-1	56.08	65.23	37.32	27.91
MGWC-2	37.36	48.54	20.02	28.52
MGWC-3	38.74	52.65	17.29	35.36
MGWC-4	67.35	64.33	25.24	39.09
MGWA-5	63.09	64.36	21.88	42.48
MGWA-6	41.93	61.08	19.70	41.38
MGWA-6A	39.70	59.76	18.33	41.43
MGWC-7	42.29	54.40	20.49	33.91
MGWC-8	52.56	62.61	30.41	32.20
MGWA-9	43.05	59.29	20.39	38.90
MGWA-10	53.09	65.07	16.64	48.43
MGWA-11	55.81	64.91	20.06	44.85
MGWC-12	52.90	64.10	24.88	39.22
PZ-13	26.76	40.91	17.01	23.90
PZ-14	41.50	47.11	17.06	30.05
PZ-15	28.87	42.37	18.56	23.85
PZ-16	42.39	54.71	32.41	22.30
PZ-17	45.12	57.51	30.51	27.00
PZ-18	41.70	53.48	18.66	34.82
MGWC-19	72.70	53.98	21.49	32.49
MGWC-20	54.77	51.56	21.60	29.96
MGWC-21	82.68	62.65	31.39	31.26
MGWC-22	67.56	47.53	17.09	30.44
MGWC-23	42.90	57.47	33.21	24.26
MGWA-24	47.00	60.53	18.57	41.96

Notes:  
 Depths to Water Measured within a 24-hour Period on January 29, 2020.  
 Wells resurveyed June 2020.  
 ft NAVD = feet North American Vertical Datum of 1988  
 ft BTOC = feet below top of casing  
 \* MGWC-4, MGWC-19, MGWC-21, and MGWC-22 not used to calculate contours.



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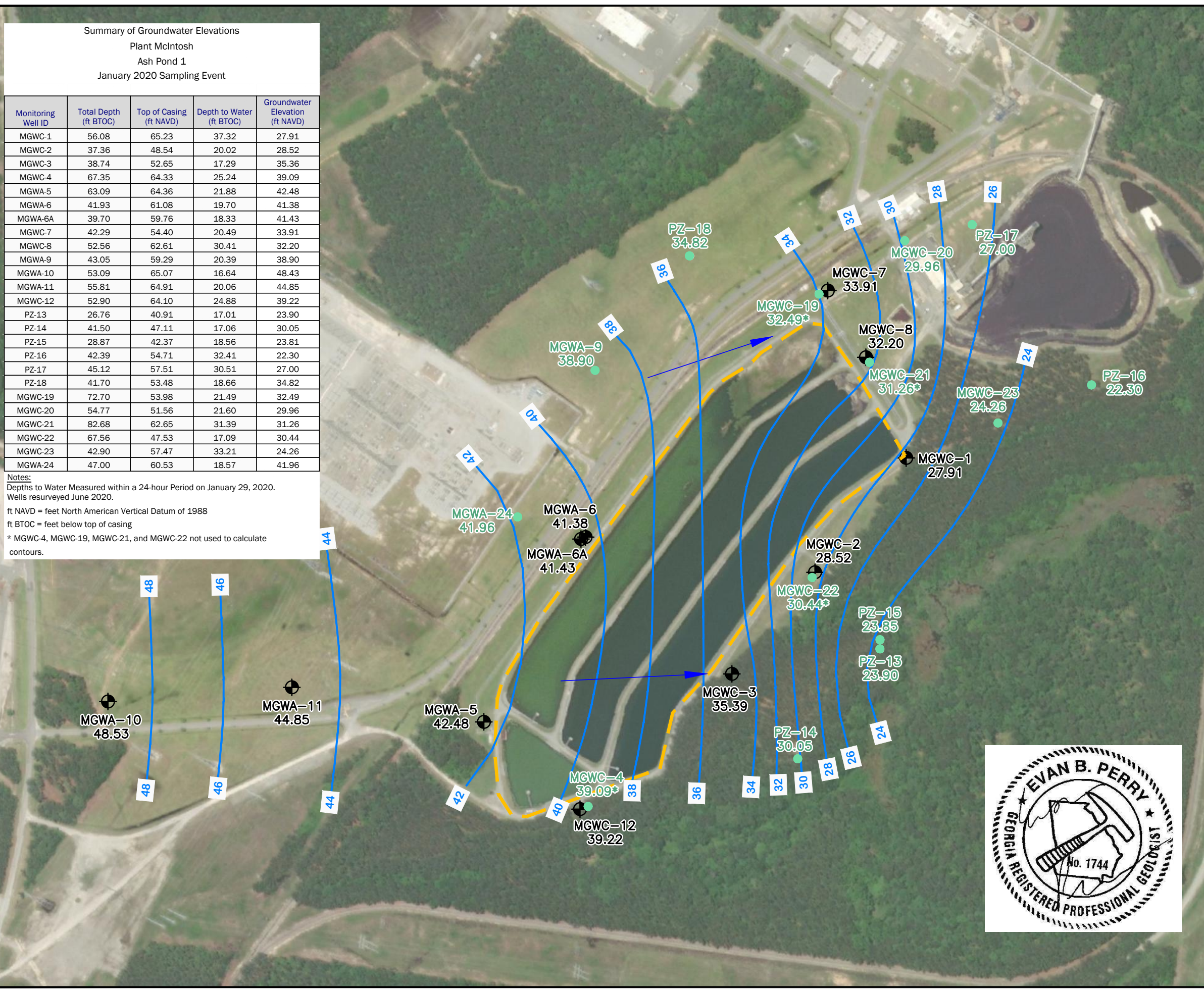


SCALE (IN FEET)

LEGEND:

EXISTING	DESCRIPTION
	APPROXIMATE AP-1 BOUNDARY
	MGWC-1 27.38 NETWORK MONITORING WELL GROUNDWATER ELEVATION
	PZ-17 27.15 PIEZOMETER GROUNDWATER ELEVATION
	24 GROUNDWATER ELEVATION CONTOUR
	GROUNDWATER FLOW DIRECTION

\\ATLANTA\Projects\Industry\Sub-Southern Company\110-Groundwater Consulting Services\Plant McIntosh\2-ap CW Sampling And Reporting\2020 AP-1 CW\2020 1st CW\DWG\Plant McIntosh AP - January 2020 Map.ap 8/4/20 EVAN PERRY



PROJECT



GEORGIA POWER COMPANY  
 PLANT McINTOSH  
 ASH POND 1

POTENTIOMETRIC CONTOUR MAP  
 JANUARY 2020

PROJECT NO. I054-110

JULY 2020

DRAWN BY: JB

FIGURE:

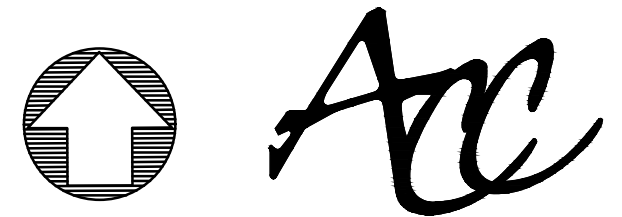
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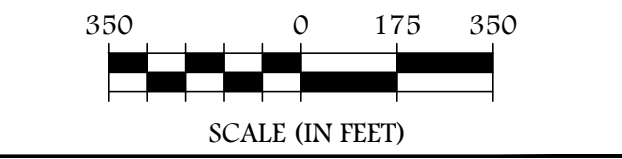
Summary of Groundwater Elevations  
Plant McIntosh  
Ash Pond 1  
March 2020 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft NAVD)	Depth to Water (ft BTOC)	Groundwater Elevation (ft NAVD)
MGWC-1	56.08	65.23	37.70	27.53
MGWC-2	37.36	48.54	19.71	28.83
MGWC-3	38.74	52.65	17.01	35.64
MGWC-4	67.35	64.33	24.80	39.53
MGWA-5	63.09	64.36	21.20	43.16
MGWA-6	41.93	61.08	18.66	42.42
MGWA-6A	39.70	59.76	17.30	42.46
MGWC-7	42.29	54.40	19.23	35.17
MGWC-8	52.56	62.61	30.25	32.36
MGWA-9	43.05	59.29	18.61	40.68
MGWA-10	53.09	65.07	15.42	49.65
MGWA-11	55.81	64.91	19.11	45.80
MGWC-12	52.90	64.10	24.43	39.67
PZ-13	26.76	40.91	16.65	24.26
PZ-14	41.50	47.11	16.70	30.41
PZ-15	28.87	42.37	18.15	24.22
PZ-16	42.39	54.71	32.13	22.58
PZ-17	45.12	57.51	30.31	27.20
PZ-18	41.70	53.48	16.60	36.88
MGWC-19	72.70	53.98	20.53	33.45*
MGWC-20	54.77	51.56	20.70	30.86
MGWC-21	82.68	62.65	30.92	31.73*
MGWC-22	67.56	47.53	16.82	28.83
MGWC-23	42.90	57.47	33.04	24.43
MGWC-24	47.00	60.53	17.22	43.31

Notes:  
 Depths to water measured within a 24-hour period on March 9, 2020.  
 Wells resurveyed June 2020.  
 ft NAVD = feet North American Vertical Datum of 1988  
 ft BTOC = feet below top of casing  
 \* MGWC-4, MGWC-19, MGWC-21, and MGWC-22 not used to calculate contours.



ATLANTIC COAST CONSULTING, INC.

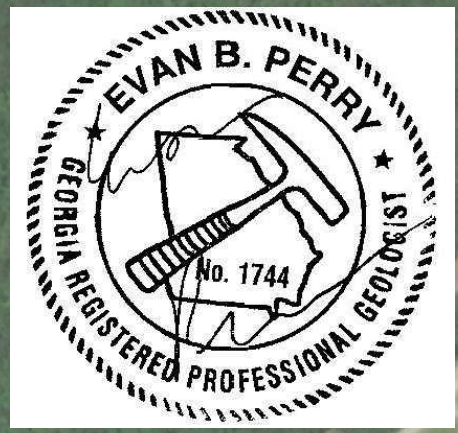
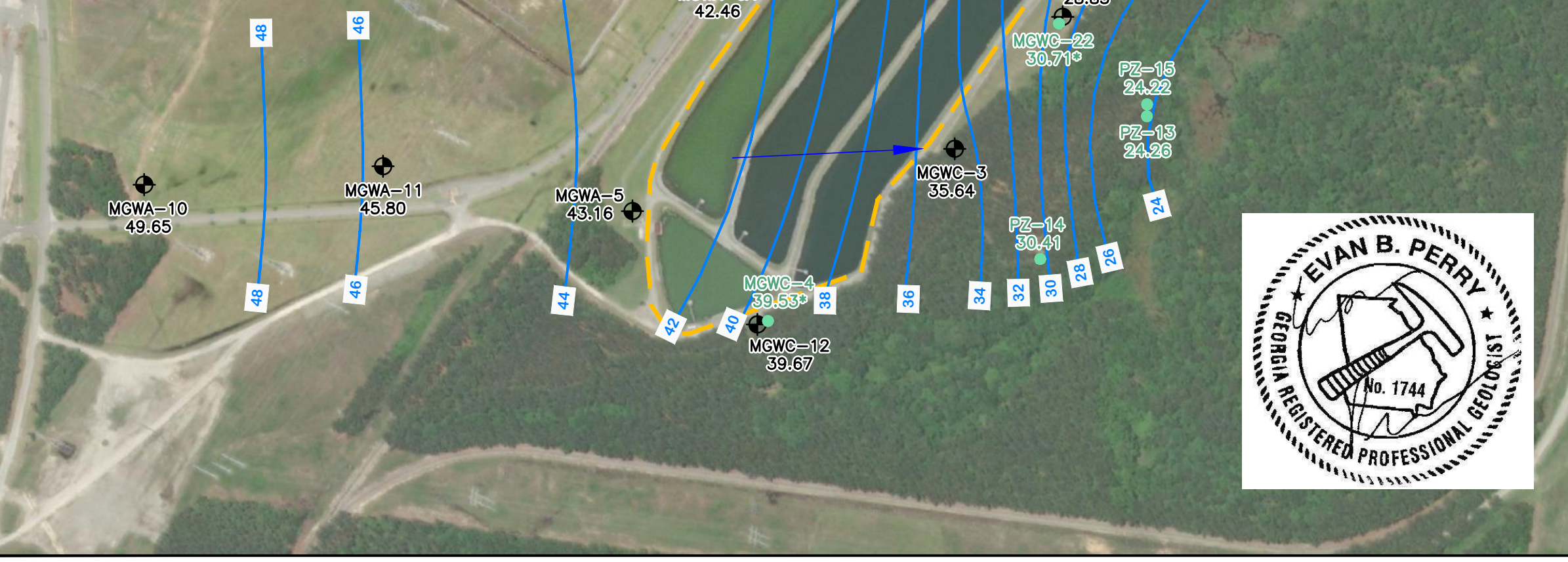


SCALE (IN FEET)


**LEGEND:**

EXISTING	DESCRIPTION
	APPROXIMATE AP-1 BOUNDARY
	MGWC-1 27.38 NETWORK MONITORING WELL GROUNDWATER ELEVATION
	PZ-17 27.15 PIEZOMETER GROUNDWATER ELEVATION
	24 GROUNDWATER ELEVATION CONTOUR
	GROUNDWATER FLOW DIRECTION

\\ATLANTA1\Projects\Industry\Sub-Southern Company\110-Groundwater Consulting Services\Plant McIntosh\2-ap-01 Sampling And Reporting\2020 AP-1 GW\2020 1st SA\DWG\Plant McIntosh AP - March 2020 Map.dwg 8/4/20 EVAN PERRY



PROJECT



GEORGIA POWER COMPANY  
 PLANT McINTOSH  
 ASH POND 1

POTENTIOMETRIC CONTOUR MAP  
 MARCH 2020

PROJECT NO. I054-110 JULY 2020

DRAWN BY:	RW	FIGURE:	4
CHECKED BY:	MM		



## APPENDICES

## APPENDIX A

# Laboratory Analytical and Field Sampling Reports

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-101629-1

Client Project/Site: CCR - Plant McIntosh Ash Pond 1

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:  
2/13/2020 7:51:53 AM

Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*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.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

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**Job ID: 180-101629-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

**Job Narrative  
180-101629-1**

### Comments

No additional comments.

### Receipt

The samples were received on 1/29/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 3.9° C.

### Metals

Methods 6020, 6020A, 6020B: The low level initial calibration verification (ICVL) associated with batch 180-306471 recovered above the upper control limit for cadmium. The samples associated with this ICVL were non-detects for the affected analytes; therefore, the data have been reported.

Methods 6020A, 6020B: The method blank for preparation batch 180-306211 and analytical batch 180-306471 contained nickel above the reporting limit (RL). Associated samples were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Methods 6020, 6020A, 6020B: The continuing calibration verification (CCV) associated with batch 180-306471 recovered above the upper control limit for beryllium. The samples associated with this CCV were non-detects or less than the RL for the affected analytes; therefore, the data have been reported.

Methods 6020, 6020A, 6020B: The continuing calibration verification (CCV) associated with batch 180-306471 recovered above the upper control limit for beryllium. The samples associated with this CCV were non-detects or less than the RL for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20 *
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	01-31-20 *
Wisconsin	State	998027800	08-31-20

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





# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101629-1	MGWA-10	Water	01/28/20 13:10	01/29/20 09:00	
180-101629-2	MGWA-11	Water	01/28/20 13:45	01/29/20 09:00	
180-101629-3	MGWA-6	Water	01/28/20 14:40	01/29/20 09:00	
180-101629-4	MGWA-5	Water	01/28/20 15:27	01/29/20 09:00	
180-101629-5	MGWA-6A	Water	01/28/20 15:40	01/29/20 09:00	
180-101629-6	MGWC-12	Water	01/28/20 16:52	01/29/20 09:00	
180-101629-7	MGWC-7	Water	01/28/20 17:05	01/29/20 09:00	

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

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

Method	Method Description	Protocol	Laboratory
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

#### 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 PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Client Sample ID: MGWA-10

## Lab Sample ID: 180-101629-1

Date Collected: 01/28/20 13:10

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 21:58	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 16:36	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:28	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 13:10	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-11

## Lab Sample ID: 180-101629-2

Date Collected: 01/28/20 13:45

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 22:23	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 16:53	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:29	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 13:45	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6

## Lab Sample ID: 180-101629-3

Date Collected: 01/28/20 14:40

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 22:28	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 16:55	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:32	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 14:40	FDS	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Client Sample ID: MGWA-5

## Lab Sample ID: 180-101629-4

Date Collected: 01/28/20 15:27

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 22:33	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 16:58	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:32	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 15:27	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6A

## Lab Sample ID: 180-101629-5

Date Collected: 01/28/20 15:40

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 22:38	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 17:00	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:33	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 15:40	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-12

## Lab Sample ID: 180-101629-6

Date Collected: 01/28/20 16:52

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 22:53	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 17:03	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:34	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 16:52	FDS	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

**Client Sample ID: MGWC-7**

**Lab Sample ID: 180-101629-7**

**Date Collected: 01/28/20 17:05**

**Matrix: Water**

**Date Received: 01/29/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306857	02/11/20 22:58	WTR	TAL PIT
Instrument ID: M										
Total Recoverable	Prep	3005A			50 mL	50 mL	306211	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			306471	02/07/20 17:05	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	306302	02/06/20 13:56	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			306601	02/10/20 14:35	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/28/20 17:05	FDS	TAL PIT
Instrument ID: NOEQUIP										

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

**Analyst References:**

Lab: TAL PIT

Batch Type: Prep

NAM = Nicole Marfisi

RJR = Ron Rosenbaum

Batch Type: Analysis

FDS = Sampler Field

NAM = Nicole Marfisi

RSK = Robert Kurtz

WTR = Bill Reinheimer

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

**Client Sample ID: MGWA-10**

**Lab Sample ID: 180-101629-1**

Date Collected: 01/28/20 13:10

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 16:36	1
<b>Barium</b>	<b>0.025</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 16:36	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 16:36	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 16:36	1
<b>Chromium</b>	<b>0.0044</b>		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 16:36	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 16:36	1
<b>Molybdenum</b>	<b>0.00064</b>	<b>J</b>	0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 16:36	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 16:36	1
<b>Antimony</b>	<b>0.00049</b>	<b>J</b>	0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 16:36	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 16:36	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 16:36	1
<b>Lithium</b>	<b>0.0064</b>		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 21:58	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:28	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Field pH by SM4500-H B</b>	<b>5.78</b>				SU			01/28/20 13:10	1

**Client Sample ID: MGWA-11**

**Lab Sample ID: 180-101629-2**

Date Collected: 01/28/20 13:45

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.0014</b>		0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 16:53	1
<b>Barium</b>	<b>0.13</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 16:53	1
<b>Beryllium</b>	<b>0.00040</b>	<b>J ^</b>	0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 16:53	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 16:53	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 16:53	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 16:53	1
<b>Molybdenum</b>	<b>0.00085</b>	<b>J</b>	0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 16:53	1
<b>Lead</b>	<b>0.00016</b>	<b>J B</b>	0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 16:53	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 16:53	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 16:53	1
<b>Thallium</b>	<b>0.00033</b>	<b>J B</b>	0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 16:53	1
<b>Lithium</b>	<b>0.026</b>		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 22:23	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:29	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Field pH by SM4500-H B</b>	<b>7.40</b>				SU			01/28/20 13:45	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

**Client Sample ID: MGWA-6**

**Lab Sample ID: 180-101629-3**

Date Collected: 01/28/20 14:40

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.0063</b>		0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 16:55	1
<b>Barium</b>	<b>0.034</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 16:55	1
Beryllium	<0.00018	^	0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 16:55	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 16:55	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 16:55	1
<b>Cobalt</b>	<b>0.00041</b>	<b>J</b>	0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 16:55	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 16:55	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 16:55	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 16:55	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 16:55	1
<b>Thallium</b>	<b>0.00027</b>	<b>J B</b>	0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 16:55	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 22:28	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:32	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH by SM4500-H B	7.17				SU			01/28/20 14:40	1

**Client Sample ID: MGWA-5**

**Lab Sample ID: 180-101629-4**

Date Collected: 01/28/20 15:27

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.00036</b>	<b>J</b>	0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 16:58	1
<b>Barium</b>	<b>0.034</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 16:58	1
Beryllium	<0.00018	^	0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 16:58	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 16:58	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 16:58	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 16:58	1
<b>Molybdenum</b>	<b>0.00095</b>	<b>J</b>	0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 16:58	1
<b>Lead</b>	<b>0.00018</b>	<b>J B</b>	0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 16:58	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 16:58	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 16:58	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 16:58	1
<b>Lithium</b>	<b>0.0093</b>		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 22:33	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:32	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH by SM4500-H B	7.46				SU			01/28/20 15:27	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

**Client Sample ID: MGWA-6A**

**Lab Sample ID: 180-101629-5**

Date Collected: 01/28/20 15:40

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.0028</b>		0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 17:00	1
<b>Barium</b>	<b>0.037</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 17:00	1
Beryllium	<0.00018	^	0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 17:00	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 17:00	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 17:00	1
<b>Cobalt</b>	<b>0.00024</b>	<b>J</b>	0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 17:00	1
<b>Molybdenum</b>	<b>0.0014</b>	<b>J</b>	0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 17:00	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 17:00	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 17:00	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 17:00	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 17:00	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 22:38	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:33	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Field pH by SM4500-H B</b>	<b>7.36</b>				SU			01/28/20 15:40	1

**Client Sample ID: MGWC-12**

**Lab Sample ID: 180-101629-6**

Date Collected: 01/28/20 16:52

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.00051</b>	<b>J</b>	0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 17:03	1
<b>Barium</b>	<b>0.069</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 17:03	1
Beryllium	<0.00018	^	0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 17:03	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 17:03	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 17:03	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 17:03	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 17:03	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 17:03	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 17:03	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 17:03	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 17:03	1
<b>Lithium</b>	<b>0.022</b>		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 22:53	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:34	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Field pH by SM4500-H B</b>	<b>7.25</b>				SU			01/28/20 16:52	1

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# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

**Client Sample ID: MGWC-7**

**Lab Sample ID: 180-101629-7**

Date Collected: 01/28/20 17:05

Matrix: Water

Date Received: 01/29/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.00046</b>	<b>J</b>	0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 17:05	1
<b>Barium</b>	<b>0.012</b>		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 17:05	1
Beryllium	<0.00018	^	0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 17:05	1
Cadmium	<0.00022	^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 17:05	1
<b>Chromium</b>	<b>0.0015</b>	<b>J</b>	0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 17:05	1
<b>Cobalt</b>	<b>0.0080</b>		0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 17:05	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 17:05	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 17:05	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 17:05	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 17:05	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 17:05	1
<b>Lithium</b>	<b>0.13</b>		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 22:58	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:35	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
<b>Field pH by SM4500-H B</b>	<b>6.61</b>				SU			01/28/20 17:05	1

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-306211/1-A**  
**Matrix: Water**  
**Analysis Batch: 306471**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 306211**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/06/20 08:00	02/07/20 16:16	1
Barium	<0.0016		0.010	0.0016	mg/L		02/06/20 08:00	02/07/20 16:16	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/06/20 08:00	02/07/20 16:16	1
Cadmium	0.000254	J ^	0.0010	0.00022	mg/L		02/06/20 08:00	02/07/20 16:16	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/06/20 08:00	02/07/20 16:16	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/06/20 08:00	02/07/20 16:16	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/06/20 08:00	02/07/20 16:16	1
Lead	0.000295	J	0.0010	0.00013	mg/L		02/06/20 08:00	02/07/20 16:16	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/06/20 08:00	02/07/20 16:16	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/06/20 08:00	02/07/20 16:16	1
Thallium	0.000429	J	0.0010	0.00015	mg/L		02/06/20 08:00	02/07/20 16:16	1

**Lab Sample ID: MB 180-306211/1-A**  
**Matrix: Water**  
**Analysis Batch: 306857**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 306211**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.0034		0.0050	0.0034	mg/L		02/06/20 08:00	02/11/20 21:24	1

**Lab Sample ID: LCS 180-306211/2-A**  
**Matrix: Water**  
**Analysis Batch: 306471**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 306211**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.976		mg/L		98	80 - 120
Barium	1.00	1.03		mg/L		103	80 - 120
Beryllium	0.500	0.509		mg/L		102	80 - 120
Cadmium	0.500	0.510	^	mg/L		102	80 - 120
Chromium	0.500	0.521		mg/L		104	80 - 120
Cobalt	0.500	0.457		mg/L		91	80 - 120
Molybdenum	0.500	0.502		mg/L		100	80 - 120
Lead	0.500	0.502		mg/L		100	80 - 120
Antimony	0.250	0.244		mg/L		98	80 - 120
Selenium	1.00	0.923		mg/L		92	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120

**Lab Sample ID: LCS 180-306211/2-A**  
**Matrix: Water**  
**Analysis Batch: 306857**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 306211**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.527		mg/L		105	80 - 120

**Lab Sample ID: 180-101629-1 MS**  
**Matrix: Water**  
**Analysis Batch: 306471**

**Client Sample ID: MGWA-10**  
**Prep Type: Total Recoverable**  
**Prep Batch: 306211**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00031		1.00	0.976		mg/L		98	75 - 125

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# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-101629-1 MS  
 Matrix: Water  
 Analysis Batch: 306471

Client Sample ID: MGWA-10  
 Prep Type: Total Recoverable  
 Prep Batch: 306211

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Barium	0.025		1.00	1.04		mg/L		102	75 - 125
Beryllium	<0.00018		0.500	0.515	^	mg/L		103	75 - 125
Cadmium	<0.00022	^	0.500	0.512	^	mg/L		102	75 - 125
Chromium	0.0044		0.500	0.525		mg/L		104	75 - 125
Cobalt	<0.00013		0.500	0.444		mg/L		89	75 - 125
Molybdenum	0.00064	J	0.500	0.500		mg/L		100	75 - 125
Lead	<0.00013		0.500	0.493		mg/L		99	75 - 125
Antimony	0.00049	J	0.250	0.244		mg/L		97	75 - 125
Selenium	<0.0015		1.00	0.918		mg/L		92	75 - 125
Thallium	<0.00015		1.00	1.02		mg/L		102	75 - 125

Lab Sample ID: 180-101629-1 MS  
 Matrix: Water  
 Analysis Batch: 306857

Client Sample ID: MGWA-10  
 Prep Type: Total Recoverable  
 Prep Batch: 306211

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lithium	0.0064		0.500	0.549		mg/L		108	75 - 125

Lab Sample ID: 180-101629-1 MSD  
 Matrix: Water  
 Analysis Batch: 306471

Client Sample ID: MGWA-10  
 Prep Type: Total Recoverable  
 Prep Batch: 306211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	<0.00031		1.00	0.970		mg/L		97	75 - 125	1	20
Barium	0.025		1.00	1.03		mg/L		100	75 - 125	1	20
Beryllium	<0.00018		0.500	0.534	^	mg/L		107	75 - 125	4	20
Cadmium	<0.00022	^	0.500	0.510	^	mg/L		102	75 - 125	0	20
Chromium	0.0044		0.500	0.533		mg/L		106	75 - 125	1	20
Cobalt	<0.00013		0.500	0.452		mg/L		90	75 - 125	2	20
Molybdenum	0.00064	J	0.500	0.509		mg/L		102	75 - 125	2	20
Lead	<0.00013		0.500	0.497		mg/L		99	75 - 125	1	20
Antimony	0.00049	J	0.250	0.241		mg/L		96	75 - 125	1	20
Selenium	<0.0015		1.00	0.921		mg/L		92	75 - 125	0	20
Thallium	<0.00015		1.00	1.05		mg/L		105	75 - 125	3	20

Lab Sample ID: 180-101629-1 MSD  
 Matrix: Water  
 Analysis Batch: 306857

Client Sample ID: MGWA-10  
 Prep Type: Total Recoverable  
 Prep Batch: 306211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lithium	0.0064		0.500	0.550		mg/L		109	75 - 125	0	20

## Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-306302/1-A  
 Matrix: Water  
 Analysis Batch: 306601

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 306302

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/06/20 13:56	02/10/20 14:16	1

Eurofins TestAmerica, Pittsburgh

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: LCS 180-306302/2-A  
Matrix: Water  
Analysis Batch: 306601

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 306302  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00237		mg/L		95	80 - 120

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

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Metals

### Prep Batch: 306211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total Recoverable	Water	3005A	
180-101629-2	MGWA-11	Total Recoverable	Water	3005A	
180-101629-3	MGWA-6	Total Recoverable	Water	3005A	
180-101629-4	MGWA-5	Total Recoverable	Water	3005A	
180-101629-5	MGWA-6A	Total Recoverable	Water	3005A	
180-101629-6	MGWC-12	Total Recoverable	Water	3005A	
180-101629-7	MGWC-7	Total Recoverable	Water	3005A	
MB 180-306211/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-306211/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-101629-1 MS	MGWA-10	Total Recoverable	Water	3005A	
180-101629-1 MSD	MGWA-10	Total Recoverable	Water	3005A	

### Prep Batch: 306302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total/NA	Water	7470A	
180-101629-2	MGWA-11	Total/NA	Water	7470A	
180-101629-3	MGWA-6	Total/NA	Water	7470A	
180-101629-4	MGWA-5	Total/NA	Water	7470A	
180-101629-5	MGWA-6A	Total/NA	Water	7470A	
180-101629-6	MGWC-12	Total/NA	Water	7470A	
180-101629-7	MGWC-7	Total/NA	Water	7470A	
MB 180-306302/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-306302/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 306471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total Recoverable	Water	EPA 6020B	306211
180-101629-2	MGWA-11	Total Recoverable	Water	EPA 6020B	306211
180-101629-3	MGWA-6	Total Recoverable	Water	EPA 6020B	306211
180-101629-4	MGWA-5	Total Recoverable	Water	EPA 6020B	306211
180-101629-5	MGWA-6A	Total Recoverable	Water	EPA 6020B	306211
180-101629-6	MGWC-12	Total Recoverable	Water	EPA 6020B	306211
180-101629-7	MGWC-7	Total Recoverable	Water	EPA 6020B	306211
MB 180-306211/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	306211
LCS 180-306211/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	306211
180-101629-1 MS	MGWA-10	Total Recoverable	Water	EPA 6020B	306211
180-101629-1 MSD	MGWA-10	Total Recoverable	Water	EPA 6020B	306211

### Analysis Batch: 306601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total/NA	Water	EPA 7470A	306302
180-101629-2	MGWA-11	Total/NA	Water	EPA 7470A	306302
180-101629-3	MGWA-6	Total/NA	Water	EPA 7470A	306302
180-101629-4	MGWA-5	Total/NA	Water	EPA 7470A	306302
180-101629-5	MGWA-6A	Total/NA	Water	EPA 7470A	306302
180-101629-6	MGWC-12	Total/NA	Water	EPA 7470A	306302
180-101629-7	MGWC-7	Total/NA	Water	EPA 7470A	306302
MB 180-306302/1-A	Method Blank	Total/NA	Water	EPA 7470A	306302
LCS 180-306302/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	306302

Eurofins TestAmerica, Pittsburgh

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-1

## Metals

### Analysis Batch: 306857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total Recoverable	Water	EPA 6020B	306211
180-101629-2	MGWA-11	Total Recoverable	Water	EPA 6020B	306211
180-101629-3	MGWA-6	Total Recoverable	Water	EPA 6020B	306211
180-101629-4	MGWA-5	Total Recoverable	Water	EPA 6020B	306211
180-101629-5	MGWA-6A	Total Recoverable	Water	EPA 6020B	306211
180-101629-6	MGWC-12	Total Recoverable	Water	EPA 6020B	306211
180-101629-7	MGWC-7	Total Recoverable	Water	EPA 6020B	306211
MB 180-306211/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	306211
LCS 180-306211/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	306211
180-101629-1 MS	MGWA-10	Total Recoverable	Water	EPA 6020B	306211
180-101629-1 MSD	MGWA-10	Total Recoverable	Water	EPA 6020B	306211

## Field Service / Mobile Lab

### Analysis Batch: 305709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total/NA	Water	Field Sampling	
180-101629-2	MGWA-11	Total/NA	Water	Field Sampling	
180-101629-3	MGWA-6	Total/NA	Water	Field Sampling	
180-101629-4	MGWA-5	Total/NA	Water	Field Sampling	
180-101629-5	MGWA-6A	Total/NA	Water	Field Sampling	
180-101629-6	MGWC-12	Total/NA	Water	Field Sampling	
180-101629-7	MGWC-7	Total/NA	Water	Field Sampling	



301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone (412) 963-7058 Fax (412) 963-2468

**Chain of Custody Record**

<b>Client Information</b> Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State: AL, Zip: 35291 Phone: 205-992-5417(Tel) Email: Impetty@southernco.com Project Name: CCR - Plant McIntosh Ash Pond 1 Site: Georgia		Lab PM: Bortol, Veronica E-Mail: veronica.bortol@testamericainc.com Phone: 404-592-0094 Carrier Tracking No(s): 180-57786-11316.1 Page 1 of 1 Job #					
Due Date Requested: TAT Requested (days): Standard PO #: SCS10382606 WO #: Project #: 18019956 SSOW#:		Analysis Requested 9315 Ra226, 9320 Ra228 6020B, 7470A Pb, Li, Mo, Se, Tl, Hg B, H, As, Ba, Be, Cd, Co, Cr, V					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastliq, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Preservation Code	Special Instructions/Note:
MGWA-10	1/28/20	1310	G	Water	N		2 Coolers
MGWA-11	1/28/20	1345	G	Water	N		1 COC
MGWA-6	1/28/20	1440	G	Water	N		
MGWA-5	1/28/20	1527	G	Water	N		
MGWA-6A	1/28/20	1540	G	Water	N		
MGWC-12	1/28/20	1652	G	Water	N		
MGWC-7	1/28/20	1705	G	Water	N		
				Water			
				Water			
				Water			
				Water			



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

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: *Lambert* Date/Time: 1/28/20 1800 Company: GEI

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No  
 Custody Seal No.: \_\_\_\_\_

Relinquished by: *Deluke Watson* Date/Time: 1-29-20 Company: *EPAPITY*

Relinquished by: \_\_\_\_\_ Date/Time: 9:00 Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks:





eurofins

ORIGIN ID: SAVA (770) 912-0703  
LAUREN COKER

1375 PEACHTREE ST NE  
ATLANTA, GA 30309  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238

(412) 963-8222  
REF: (412) 963-8222

DEPT:

INVT:

PO:

SHIP DATE: 28-JAN-20  
ACT WGT: 34.60 LB  
CAD: 6894819/SSEFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

Part # 155901930 10-19



180-101629 Waybill

WED - 29 JAN 10:30A  
PRIORITY OVERNIGHT

2 of 2

MPS# 7799 5446 5142

Metr# 7799 5446 5131

0201

XH AGCA

15238  
PA-US PIT



Uncorrected temp  
Thermometer ID

CF Initials

PT-WI-SR-001 effective 11/8/18

97 1 A 10:30

ORIGIN ID: SAVA (770) 912-0703  
LAUREN COKER

1375 PEACHTREE ST NE  
ATLANTA, GA 30309  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238

(412) 963-8222  
REF: (412) 963-8222

DEPT:

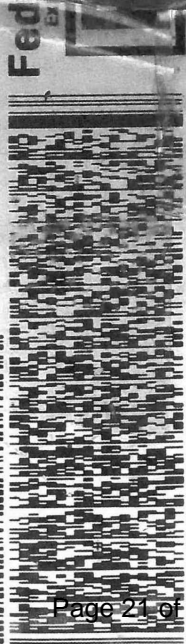
INVT:

PO:

SHIP DATE: 28-JAN-20  
ACT WGT: 34.60 LB  
CAD: 6894819/SSEFE2021  
DIMS: 21x14x14 IN

RT 97  
FZ

1  
10:30 A  
01:20



WED - 29 JAN 10:30A  
PRIORITY OVERNIGHT

1 of 2

MPS# 7799 5446 5131

MASTER #

XH AGCA

15238

PA-US

Uncorrected temp  
Thermometer ID

CF Initials

PT-WI-SR-001 effective 11/8/18

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



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Bortol, Veronica	Carrier Tracking No(s): 180-384063.1
Client Contact: Shipping/Receiving		E-Mail: veronica.bortol@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		State of Origin: Georgia	Job #: 180-101629-1
Address: 13715 Rider Trail North,		Accreditations Required (See note):	
City: Earth City	Due Date Requested: 2/10/2020	<b>Analysis Requested</b>  9320_Ra226/PreSep_0 Standard Target List 9315_Ra226/PreSep_21 (MOD) Copy Analyses Ra226Ra228_GFPc	
State, Zip: MO, 63045	TAT Requested (days):		
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: CCR - Plant McIntosh Ash Pond 1	Project #: 18019956		
Site: Southern McIntosh Ash Pond 1	SSOW#:	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 - EDTA 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:	
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Special Instructions/Note:</b>	
MGWA-10 (180-101629-1)	Sample Date 1/28/20	Sample Time 13:10 Eastern	Matrix Water
MGWA-11 (180-101629-2)	1/28/20	13:45 Eastern	Water
MGWA-6 (180-101629-3)	1/28/20	14:40 Eastern	Water
MGWA-5 (180-101629-4)	1/28/20	15:27 Eastern	Water
MGWA-6A (180-101629-5)	1/28/20	15:40 Eastern	Water
MGWC-12 (180-101629-6)	1/28/20	16:52 Eastern	Water
MGWC-7 (180-101629-7)	1/28/20	17:05 Eastern	Water
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis(is)/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.			
<b>Possible Hazard Identification</b>			
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2			
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date/Time: 3/1/20 7:00 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact: (Custody Seal No.): _____ Δ Yes Δ No			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: _____ Method of Shipment: _____ Received by: _____ Date/Time: 2/10/20 8:45 Received by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Cooler Temperature(s) °C and Other Remarks: _____			



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101629-1

**Login Number: 101629**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-101629-2

Client Project/Site: CCR - Plant McIntosh Ash Pond 1

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:  
2/27/2020 2:59:16 PM

Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*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.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Job ID: 180-101629-2

Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

#### Job Narrative 180-101629-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/29/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 3.9° C.

#### RAD

Methods 903.0, 9315: Radium-226 Prep Batch 160-459066

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MGWA-10 (180-101629-1), MGWA-11 (180-101629-2), MGWA-6 (180-101629-3), MGWA-5 (180-101629-4), MGWA-6A (180-101629-5), MGWC-12 (180-101629-6), MGWC-7 (180-101629-7), (LCS 160-459066/1-A), (LCSD 160-459066/2-A) and (MB 160-459066/21-A)

Methods 904.0, 9320: Ra-228 Prep Batch 160-459068

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MGWA-10 (180-101629-1), MGWA-11 (180-101629-2), MGWA-6 (180-101629-3), MGWA-5 (180-101629-4), MGWA-6A (180-101629-5), MGWC-12 (180-101629-6), MGWC-7 (180-101629-7), (LCS 160-459068/1-A), (LCSD 160-459068/2-A) and (MB 160-459068/21-A)

Method PrecSep\_0: Radium 228 Prep Batch 160-459068:

Insufficient sample volume was available to perform a sample duplicate for the following samples: MGWA-10 (180-101629-1), MGWA-11 (180-101629-2), MGWA-6 (180-101629-3), MGWA-5 (180-101629-4), MGWA-6A (180-101629-5), MGWC-12 (180-101629-6) and MGWC-7 (180-101629-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-459066:

Insufficient sample volume was available to perform a sample duplicate for the following samples: MGWA-10 (180-101629-1), MGWA-11 (180-101629-2), MGWA-6 (180-101629-3), MGWA-5 (180-101629-4), MGWA-6A (180-101629-5), MGWC-12 (180-101629-6) and MGWC-7 (180-101629-7). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Qualifiers

### Rad

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

## Glossary

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

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20 *
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

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



# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20 *
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

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

# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101629-1	MGWA-10	Water	01/28/20 13:10	01/29/20 09:00	
180-101629-2	MGWA-11	Water	01/28/20 13:45	01/29/20 09:00	
180-101629-3	MGWA-6	Water	01/28/20 14:40	01/29/20 09:00	
180-101629-4	MGWA-5	Water	01/28/20 15:27	01/29/20 09:00	
180-101629-5	MGWA-6A	Water	01/28/20 15:40	01/29/20 09:00	
180-101629-6	MGWC-12	Water	01/28/20 16:52	01/29/20 09:00	
180-101629-7	MGWC-7	Water	01/28/20 17:05	01/29/20 09:00	

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# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

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

#### Protocol References:

None = None

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

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

#### Laboratory References:

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



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Client Sample ID: MGWA-10

Lab Sample ID: 180-101629-1

Date Collected: 01/28/20 13:10

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.25 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:40	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-11

Lab Sample ID: 180-101629-2

Date Collected: 01/28/20 13:45

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.67 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.67 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:40	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6

Lab Sample ID: 180-101629-3

Date Collected: 01/28/20 14:40

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.10 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.10 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:40	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-5

Lab Sample ID: 180-101629-4

Date Collected: 01/28/20 15:27

Matrix: Water

Date Received: 01/29/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.11 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Client Sample ID: MGWA-5

Date Collected: 01/28/20 15:27

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:40	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6A

Date Collected: 01/28/20 15:40

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.43 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.43 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:40	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-12

Date Collected: 01/28/20 16:52

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.68 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.68 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-7

Date Collected: 01/28/20 17:05

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.94 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.94 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

**Client Sample ID: MGWC-7**

**Lab Sample ID: 180-101629-7**

**Date Collected: 01/28/20 17:05**

**Matrix: Water**

**Date Received: 01/29/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL

**Laboratory References:**

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

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

RBR = Rachael Ratcliff

Batch Type: Analysis

AJD = Audra DeMariano

CJQ = Caleb Quinn

SMP = Siobhan Perry

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

**Client Sample ID: MGWA-10**

**Lab Sample ID: 180-101629-1**

Date Collected: 01/28/20 13:10

Matrix: Water

Date Received: 01/29/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.300		0.0977	0.101	1.00	0.0923	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0225	U	0.217	0.217	1.00	0.386	pCi/L	02/03/20 10:05	02/13/20 16:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					02/03/20 10:05	02/13/20 16:40	1
Y Carrier	84.1		40 - 110					02/03/20 10:05	02/13/20 16:40	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.322	U	0.238	0.239	5.00	0.386	pCi/L		02/26/20 06:55	1

**Client Sample ID: MGWA-11**

**Lab Sample ID: 180-101629-2**

Date Collected: 01/28/20 13:45

Matrix: Water

Date Received: 01/29/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.124		0.0739	0.0747	1.00	0.0959	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.404	U	0.270	0.273	1.00	0.418	pCi/L	02/03/20 10:05	02/13/20 16:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		40 - 110					02/03/20 10:05	02/13/20 16:40	1
Y Carrier	86.4		40 - 110					02/03/20 10:05	02/13/20 16:40	1

Eurofins TestAmerica, Pittsburgh



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Client Sample ID: MGWA-11

## Lab Sample ID: 180-101629-2

Date Collected: 01/28/20 13:45

Matrix: Water

Date Received: 01/29/20 09:00

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.528		0.280	0.283	5.00	0.418	pCi/L		02/26/20 06:55	1

## Client Sample ID: MGWA-6

## Lab Sample ID: 180-101629-3

Date Collected: 01/28/20 14:40

Matrix: Water

Date Received: 01/29/20 09:00

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.245		0.109	0.111	1.00	0.137	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.5		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.129	U	0.304	0.304	1.00	0.518	pCi/L	02/03/20 10:05	02/13/20 16:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.5		40 - 110					02/03/20 10:05	02/13/20 16:40	1
Y Carrier	86.7		40 - 110					02/03/20 10:05	02/13/20 16:40	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.374	U	0.323	0.324	5.00	0.518	pCi/L		02/26/20 06:55	1

## Client Sample ID: MGWA-5

## Lab Sample ID: 180-101629-4

Date Collected: 01/28/20 15:27

Matrix: Water

Date Received: 01/29/20 09:00

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0321	U	0.0406	0.0407	1.00	0.100	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.4		40 - 110					02/03/20 09:38	02/25/20 11:36	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Client Sample ID: MGWA-5

Date Collected: 01/28/20 15:27

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-4

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0997	U	0.256	0.256	1.00	0.441	pCi/L	02/03/20 10:05	02/13/20 16:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.4		40 - 110					02/03/20 10:05	02/13/20 16:40	1
Y Carrier	86.0		40 - 110					02/03/20 10:05	02/13/20 16:40	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0677	U	0.259	0.259	5.00	0.441	pCi/L		02/26/20 06:55	1

## Client Sample ID: MGWA-6A

Date Collected: 01/28/20 15:40

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-5

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.162		0.0860	0.0872	1.00	0.110	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.101	U	0.251	0.251	1.00	0.462	pCi/L	02/03/20 10:05	02/13/20 16:40	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					02/03/20 10:05	02/13/20 16:40	1
Y Carrier	83.7		40 - 110					02/03/20 10:05	02/13/20 16:40	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0609	U	0.265	0.266	5.00	0.462	pCi/L		02/26/20 06:55	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Client Sample ID: MGWC-12

Date Collected: 01/28/20 16:52

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-6

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.253		0.105	0.107	1.00	0.126	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.212	U	0.240	0.241	1.00	0.394	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	86.7		40 - 110					02/03/20 10:05	02/13/20 16:41	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.465		0.262	0.264	5.00	0.394	pCi/L		02/26/20 06:55	1

## Client Sample ID: MGWC-7

Date Collected: 01/28/20 17:05

Date Received: 01/29/20 09:00

## Lab Sample ID: 180-101629-7

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.884		0.160	0.178	1.00	0.101	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.5		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.500		0.284	0.287	1.00	0.427	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.5		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	83.4		40 - 110					02/03/20 10:05	02/13/20 16:41	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

**Client Sample ID: MGWC-7**

**Lab Sample ID: 180-101629-7**

Date Collected: 01/28/20 17:05

Matrix: Water

Date Received: 01/29/20 09:00

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.38		0.326	0.338	5.00	0.427	pCi/L		02/26/20 06:55	1

- 1
- 2
- 3
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- 8
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- 10
- 11
- 12
- 13

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-459066/21-A**  
**Matrix: Water**  
**Analysis Batch: 461713**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 459066**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.01010	U	0.0400	0.0400	1.00	0.0898	pCi/L	02/03/20 09:38	02/25/20 13:28	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier	40 - 110					02/03/20 09:38	02/25/20 13:28	1
	100									

**Lab Sample ID: LCS 160-459066/1-A**  
**Matrix: Water**  
**Analysis Batch: 461713**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 459066**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec. Limits
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)					
Radium-226			11.3	9.638		1.00	1.00	0.0891	pCi/L	85	75 - 125
Carrier	LCS LCS		Limits								
Ba Carrier	%Yield	Qualifier	40 - 110								
	98.8										

**Lab Sample ID: LCSD 160-459066/2-A**  
**Matrix: Water**  
**Analysis Batch: 461713**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 459066**

Analyte	LCSD LCSD		Spike	LCSD	LCSD	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)							
Radium-226			11.3	9.990		1.04	1.00	0.0885	pCi/L	88	75 - 125	0.17	1
Carrier	LCSD LCSD		Limits										
Ba Carrier	%Yield	Qualifier	40 - 110										
	96.7												

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

**Lab Sample ID: MB 160-459068/21-A**  
**Matrix: Water**  
**Analysis Batch: 460292**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 459068**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.008800	U	0.233	0.233	1.00	0.417	pCi/L	02/03/20 10:05	02/13/20 16:31	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier	40 - 110					02/03/20 10:05	02/13/20 16:31	1
Y Carrier	86.0		40 - 110					02/03/20 10:05	02/13/20 16:31	1



# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

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

**Lab Sample ID: LCS 160-459068/1-A**  
**Matrix: Water**  
**Analysis Batch: 460260**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 459068**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.11	9.085		1.07	1.00	0.368	pCi/L	100	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.8		40 - 110
Y Carrier	87.1		40 - 110

**Lab Sample ID: LCSD 160-459068/2-A**  
**Matrix: Water**  
**Analysis Batch: 460260**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 459068**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.11	8.490		1.02	1.00	0.385	pCi/L	93	75 - 125	0.28	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	96.7		40 - 110
Y Carrier	85.2		40 - 110

# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101629-2

## Rad

### Prep Batch: 459066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total/NA	Water	PrecSep-21	
180-101629-2	MGWA-11	Total/NA	Water	PrecSep-21	
180-101629-3	MGWA-6	Total/NA	Water	PrecSep-21	
180-101629-4	MGWA-5	Total/NA	Water	PrecSep-21	
180-101629-5	MGWA-6A	Total/NA	Water	PrecSep-21	
180-101629-6	MGWC-12	Total/NA	Water	PrecSep-21	
180-101629-7	MGWC-7	Total/NA	Water	PrecSep-21	
MB 160-459066/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-459066/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-459066/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	


### Prep Batch: 459068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101629-1	MGWA-10	Total/NA	Water	PrecSep_0	
180-101629-2	MGWA-11	Total/NA	Water	PrecSep_0	
180-101629-3	MGWA-6	Total/NA	Water	PrecSep_0	
180-101629-4	MGWA-5	Total/NA	Water	PrecSep_0	
180-101629-5	MGWA-6A	Total/NA	Water	PrecSep_0	
180-101629-6	MGWC-12	Total/NA	Water	PrecSep_0	
180-101629-7	MGWC-7	Total/NA	Water	PrecSep_0	
MB 160-459068/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-459068/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-459068/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

301 Alpha Drive RIDC Park  
 Pittsburgh, PA 15238  
 Phone (412) 963-7058 Fax (412) 963-2468

**Chain of Custody Record**

<b>Client Information</b> Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State: AL, Zip: 35291 Phone: 205-992-5417(Tel) Email: lmpetty@southernco.com Project Name: CCR - Plant McIntosh Ash Pond 1 Site: Georgia		Lab PM: Bortol, Veronica E-Mail: veronica.bortol@testamericainc.com Phone: 404-592-0094 Carrier Tracking No(s): 180-57786-11316.1 COC No: 180-57786-11316.1 Page 1 of 1 Job #					
Due Date Requested: TAT Requested (days): Standard PO #: SCS10382606 WO #: Project #: 18019956 SSOW#:		Analysis Requested 9315 Ra226, 9320 Ra228 6020B, 7470A Pb, Li, Mo, Se, Tl, Hg B, H, As, Ba, Be, Cd, Co, Cr, V					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastliq, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Preservation Code	Special Instructions/Note:
MGWA-10	1/28/20	1310	G	Water	N	W	2 Coolers
MGWA-11	1/28/20	1345	G	Water	N	W	1 COC
MGWA-6	1/28/20	1440	G	Water	N	W	
MGWA-5	1/28/20	1527	G	Water	N	W	
MGWA-6A	1/28/20	1540	G	Water	N	W	
MGWC-12	1/28/20	1652	G	Water	N	W	
MGWC-7	1/28/20	1705	G	Water	N	W	
				Water			
				Water			
				Water			
				Water			

  
 180-101629 Chain of Custody

**Special Instructions/Note:**

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements:

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested: I, II, III, IV, Other (specify)

**Empty Kit Relinquished by:** *Lambert*  
 Relinquished by: *Lambert* Date: 1/28/20 1800 Company: GEI  
 Relinquished by: Date/Time: Company:  
 Relinquished by: Date/Time: Company:

**Custody Seals Intact:**  Yes  No  
 Custody Seal No.:  
 Cooler Temperature(s) °C and Other Remarks:

**Received by:** *Debbie Watson* Date/Time: 1-29-20 9:00 Company: *EPAPITY*  
 Received by: Date/Time: Company:  
 Received by: Date/Time: Company:

**Method of Shipment:**  
 Received by: Date/Time: Company:  
 Received by: Date/Time: Company:



eurofins

ORIGIN ID: SAVA (770) 912-0703  
LAUREN COKER

1375 PEACHTREE ST NE  
ATLANTA, GA 30309  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238

(412) 963-8222 REF: DEPT: (INV) PO:

SHIP DATE: 28-JAN-20  
ACT WGT: 34.60 LB  
CAD: 6894819/SSEFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY



180-101629 Waybill

WED - 29 JAN 10:30A  
PRIORITY OVERNIGHT

2 of 2  
MPS# 7799 5446 5142  
Metr# 7799 5446 5131

XH AGCA

15238  
PA-US PIT



Uncorrected temp  
Thermometer ID

CF Initials

PT-WI-SR-001 effective 11/8/18

97 1 A 10:30

ORIGIN ID: SAVA (770) 912-0703  
LAUREN COKER

1375 PEACHTREE ST NE  
ATLANTA, GA 30309  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

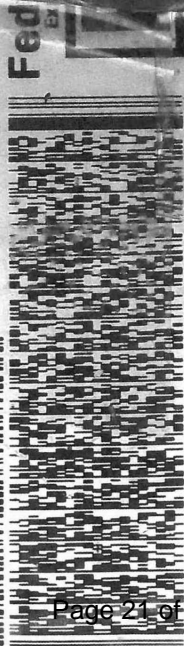
PITTSBURGH PA 15238

(412) 963-8222 REF: DEPT: (INV) PO:

SHIP DATE: 28-JAN-20  
ACT WGT: 34.60 LB  
CAD: 6894819/SSEFE2021  
DIMS: 21x14x14 IN

RT 97 FZ

1 10:30 A 01:20

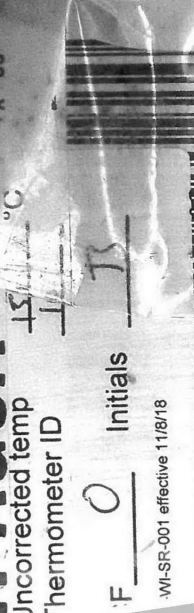


WED - 29 JAN 10:30A  
PRIORITY OVERNIGHT

1 of 2  
MPS# 7799 5446 5131  
MASTER #

XH AGCA

15238  
PA-US PIT



Uncorrected temp  
Thermometer ID

CF Initials

PT-WI-SR-001 effective 11/8/18

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# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101629-2

**Login Number: 101629**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101629-2

**Login Number: 101629**

**List Number: 2**

**Creator: Harris, Lorin C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 02/01/20 09:57 AM**

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



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101629-2

**Login Number: 101629**

**List Number: 3**

**Creator: Harris, Lorin C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 02/01/20 09:58 AM**

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



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-101686-1

Client Project/Site: CCR - Plant McIntosh Ash Pond 1

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:  
2/25/2020 7:35:36 PM

Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
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Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*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.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

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**Job ID: 180-101686-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

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**Job Narrative**  
**180-101686-1**

## Comments

No additional comments.

## Receipt

The samples were received on 1/30/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.1° C, 10.3° C and 11.8° C.

## Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Qualifiers

### Metals

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

## 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)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20 *
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

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



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101686-1	MGWC-1	Water	01/29/20 10:10	01/30/20 09:00	
180-101686-2	MGWC-3	Water	01/29/20 10:20	01/30/20 09:00	
180-101686-3	MGWC-2	Water	01/29/20 12:00	01/30/20 09:00	
180-101686-4	MGWC-8	Water	01/29/20 13:45	01/30/20 09:00	
180-101686-5	AP-DUP-01	Water	01/29/20 00:00	01/30/20 09:00	
180-101686-6	AP-DUP-02	Water	01/29/20 00:00	01/30/20 09:00	
180-101686-7	AP-FB-01	Water	01/29/20 14:40	01/30/20 09:00	
180-101686-8	AP-FB-02	Water	01/29/20 14:45	01/30/20 09:00	
180-101686-9	AP-FERB-01	Water	01/29/20 14:50	01/30/20 09:00	
180-101686-10	AP-FERB-02	Water	01/29/20 14:55	01/30/20 09:00	



# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

Method	Method Description	Protocol	Laboratory
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

#### 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 PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Client Sample ID: MGWC-1

## Lab Sample ID: 180-101686-1

Date Collected: 01/29/20 10:10

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 15:47	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:23	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/29/20 10:10	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-3

## Lab Sample ID: 180-101686-2

Date Collected: 01/29/20 10:20

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 15:59	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:24	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/29/20 10:20	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-2

## Lab Sample ID: 180-101686-3

Date Collected: 01/29/20 12:00

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:02	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:25	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	Field Sampling		1			305709	01/29/20 12:00	FDS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-8

## Lab Sample ID: 180-101686-4

Date Collected: 01/29/20 13:45

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:09	RSK	TAL PIT
Instrument ID: NEMO										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Client Sample ID: MGWC-8

Lab Sample ID: 180-101686-4

Date Collected: 01/29/20 13:45

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:26	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	Field Sampling		1			305709	01/29/20 13:45	FDS	TAL PIT
		Instrument ID: NOEQUIP								

## Client Sample ID: AP-DUP-01

Lab Sample ID: 180-101686-5

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:11	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:27	NAM	TAL PIT
		Instrument ID: HGZ								

## Client Sample ID: AP-DUP-02

Lab Sample ID: 180-101686-6

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:14	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:28	NAM	TAL PIT
		Instrument ID: HGZ								

## Client Sample ID: AP-FB-01

Lab Sample ID: 180-101686-7

Date Collected: 01/29/20 14:40

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:16	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:31	NAM	TAL PIT
		Instrument ID: HGZ								



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Client Sample ID: AP-FB-02

## Lab Sample ID: 180-101686-8

Date Collected: 01/29/20 14:45

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:19	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:32	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP-FERB-01

## Lab Sample ID: 180-101686-9

Date Collected: 01/29/20 14:50

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:21	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:33	NAM	TAL PIT
Instrument ID: HGZ										

## Client Sample ID: AP-FERB-02

## Lab Sample ID: 180-101686-10

Date Collected: 01/29/20 14:55

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	307659	02/20/20 09:59	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			307853	02/21/20 16:24	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	307534	02/19/20 12:04	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			307605	02/19/20 16:34	NAM	TAL PIT
Instrument ID: HGZ										

### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

### Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

NAM = Nicole Marfisi

Batch Type: Analysis

FDS = Sampler Field

NAM = Nicole Marfisi

RSK = Robert Kurtz

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

**Client Sample ID: MGWC-1**

**Lab Sample ID: 180-101686-1**

Date Collected: 01/29/20 10:10

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 15:47	1
Barium	0.11		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 15:47	1
Beryllium	0.00018	J	0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 15:47	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 15:47	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 15:47	1
Cobalt	0.00027	J	0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 15:47	1
Molybdenum	0.0015	J	0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 15:47	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 15:47	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 15:47	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 15:47	1
Thallium	0.00032	J	0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 15:47	1
Lithium	0.0096		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 15:47	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:23	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH by SM4500-H B	7.19				SU			01/29/20 10:10	1

**Client Sample ID: MGWC-3**

**Lab Sample ID: 180-101686-2**

Date Collected: 01/29/20 10:20

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 15:59	1
Barium	0.15		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 15:59	1
Beryllium	0.00031	J	0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 15:59	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 15:59	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 15:59	1
Cobalt	0.00067		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 15:59	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 15:59	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 15:59	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 15:59	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 15:59	1
Thallium	0.00037	J	0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 15:59	1
Lithium	0.012		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 15:59	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:24	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH by SM4500-H B	6.68				SU			01/29/20 10:20	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

**Client Sample ID: MGWC-2**

**Lab Sample ID: 180-101686-3**

Date Collected: 01/29/20 12:00

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00040	J	0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:02	1
Barium	0.051		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:02	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:02	1
Cadmium	0.0054		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:02	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:02	1
Cobalt	0.0030		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:02	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:02	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:02	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:02	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:02	1
Thallium	0.00021	J	0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:02	1
Lithium	0.0059		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:02	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:25	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH by SM4500-H B	7.30				SU			01/29/20 12:00	1

**Client Sample ID: MGWC-8**

**Lab Sample ID: 180-101686-4**

Date Collected: 01/29/20 13:45

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00047	J	0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:09	1
Barium	0.033		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:09	1
Beryllium	0.0019		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:09	1
Cadmium	0.00090	J	0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:09	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:09	1
Cobalt	0.025		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:09	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:09	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:09	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:09	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:09	1
Thallium	0.00042	J	0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:09	1
Lithium	0.037		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:09	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00012	J	0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:26	1

**Method: Field Sampling - Field Sampling**

Analyte	Result	Qualifier	RL	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH by SM4500-H B	5.76				SU			01/29/20 13:45	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

**Client Sample ID: AP-DUP-01**

**Lab Sample ID: 180-101686-5**

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:11	1
Barium	0.10		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:11	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:11	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:11	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:11	1
Cobalt	0.00022	J	0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:11	1
Molybdenum	0.0013	J	0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:11	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:11	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:11	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:11	1
Thallium	0.00018	J	0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:11	1
Lithium	0.0094		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:11	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:27	1

**Client Sample ID: AP-DUP-02**

**Lab Sample ID: 180-101686-6**

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0018		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:14	1
Barium	0.16		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:14	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:14	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:14	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:14	1
Cobalt	0.00070		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:14	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:14	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:14	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:14	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:14	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:14	1
Lithium	0.012		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:14	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:28	1

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-101686-7**

Date Collected: 01/29/20 14:40

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:16	1
Barium	<0.0016		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:16	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:16	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:16	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:16	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-101686-7**

Date Collected: 01/29/20 14:40

Matrix: Water

Date Received: 01/30/20 09:00

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:16	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:16	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:16	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:16	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:16	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:16	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:16	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:31	1

**Client Sample ID: AP-FB-02**

**Lab Sample ID: 180-101686-8**

Date Collected: 01/29/20 14:45

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:19	1
Barium	<0.0016		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:19	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:19	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:19	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:19	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:19	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:19	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:19	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:19	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:19	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:19	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:19	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:32	1

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-101686-9**

Date Collected: 01/29/20 14:50

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:21	1
Barium	<0.0016		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:21	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:21	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:21	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:21	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:21	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:21	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:21	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:21	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:21	1

Eurofins TestAmerica, Pittsburgh



# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Client Sample ID: AP-FERB-01

Lab Sample ID: 180-101686-9

Date Collected: 01/29/20 14:50

Matrix: Water

Date Received: 01/30/20 09:00

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00015		0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:21	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:21	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:33	1

## Client Sample ID: AP-FERB-02

Lab Sample ID: 180-101686-10

Date Collected: 01/29/20 14:55

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 16:24	1
Barium	<0.0016		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 16:24	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 16:24	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 16:24	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 16:24	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 16:24	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 16:24	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 16:24	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 16:24	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 16:24	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 16:24	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 16:24	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:34	1

# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-307659/1-A**  
**Matrix: Water**  
**Analysis Batch: 307853**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307659**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		02/20/20 09:59	02/21/20 15:42	1
Barium	<0.0016		0.010	0.0016	mg/L		02/20/20 09:59	02/21/20 15:42	1
Beryllium	<0.00018		0.0010	0.00018	mg/L		02/20/20 09:59	02/21/20 15:42	1
Cadmium	<0.00022		0.0010	0.00022	mg/L		02/20/20 09:59	02/21/20 15:42	1
Chromium	<0.0015		0.0020	0.0015	mg/L		02/20/20 09:59	02/21/20 15:42	1
Cobalt	<0.00013		0.00050	0.00013	mg/L		02/20/20 09:59	02/21/20 15:42	1
Molybdenum	<0.00061		0.0050	0.00061	mg/L		02/20/20 09:59	02/21/20 15:42	1
Lead	<0.00013		0.0010	0.00013	mg/L		02/20/20 09:59	02/21/20 15:42	1
Antimony	<0.00038		0.0020	0.00038	mg/L		02/20/20 09:59	02/21/20 15:42	1
Selenium	<0.0015		0.0050	0.0015	mg/L		02/20/20 09:59	02/21/20 15:42	1
Thallium	<0.00015		0.0010	0.00015	mg/L		02/20/20 09:59	02/21/20 15:42	1
Lithium	<0.0034		0.0050	0.0034	mg/L		02/20/20 09:59	02/21/20 15:42	1

**Lab Sample ID: LCS 180-307659/2-A**  
**Matrix: Water**  
**Analysis Batch: 307853**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307659**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1.00	1.06		mg/L		106	80 - 120
Barium	1.00	1.00		mg/L		100	80 - 120
Beryllium	0.500	0.524		mg/L		105	80 - 120
Cadmium	0.500	0.535		mg/L		107	80 - 120
Chromium	0.500	0.512		mg/L		102	80 - 120
Cobalt	0.500	0.519		mg/L		104	80 - 120
Molybdenum	0.500	0.484		mg/L		97	80 - 120
Lead	0.500	0.490		mg/L		98	80 - 120
Antimony	0.250	0.244		mg/L		97	80 - 120
Selenium	1.00	1.01		mg/L		101	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120
Lithium	0.500	0.452		mg/L		90	80 - 120

**Lab Sample ID: 180-101686-1 MS**  
**Matrix: Water**  
**Analysis Batch: 307853**

**Client Sample ID: MGWC-1**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307659**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.0021		1.00	1.10		mg/L		109	75 - 125
Barium	0.11		1.00	1.11		mg/L		100	75 - 125
Beryllium	0.00018	J	0.500	0.515		mg/L		103	75 - 125
Cadmium	<0.00022		0.500	0.530		mg/L		106	75 - 125
Chromium	<0.0015		0.500	0.517		mg/L		103	75 - 125
Cobalt	0.00027	J	0.500	0.523		mg/L		104	75 - 125
Molybdenum	0.0015	J	0.500	0.491		mg/L		98	75 - 125
Lead	<0.00013		0.500	0.503		mg/L		101	75 - 125
Antimony	<0.00038		0.250	0.243		mg/L		97	75 - 125
Selenium	<0.0015		1.00	1.02		mg/L		102	75 - 125
Thallium	0.00032	J	1.00	1.04		mg/L		104	75 - 125
Lithium	0.0096		0.500	0.474		mg/L		93	75 - 125

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: 180-101686-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 307853**

**Client Sample ID: MGWC-1**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307659**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Arsenic	0.0021		1.00	1.13		mg/L		112	75 - 125	3	20
Barium	0.11		1.00	1.16		mg/L		105	75 - 125	4	20
Beryllium	0.00018	J	0.500	0.547		mg/L		109	75 - 125	6	20
Cadmium	<0.00022		0.500	0.548		mg/L		110	75 - 125	3	20
Chromium	<0.0015		0.500	0.531		mg/L		106	75 - 125	2	20
Cobalt	0.00027	J	0.500	0.543		mg/L		109	75 - 125	4	20
Molybdenum	0.0015	J	0.500	0.503		mg/L		100	75 - 125	3	20
Lead	<0.00013		0.500	0.516		mg/L		103	75 - 125	3	20
Antimony	<0.00038		0.250	0.253		mg/L		101	75 - 125	4	20
Selenium	<0.0015		1.00	1.07		mg/L		107	75 - 125	5	20
Thallium	0.00032	J	1.00	1.06		mg/L		106	75 - 125	1	20
Lithium	0.0096		0.500	0.475		mg/L		93	75 - 125	0	20

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-307534/1-A**  
**Matrix: Water**  
**Analysis Batch: 307605**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 307534**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.00010		0.00020	0.00010	mg/L		02/19/20 12:04	02/19/20 16:11	1

**Lab Sample ID: LCS 180-307534/2-A**  
**Matrix: Water**  
**Analysis Batch: 307605**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 307534**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Mercury	0.00250	0.00231		mg/L		92	80 - 120

**Lab Sample ID: 180-101686-10 MS**  
**Matrix: Water**  
**Analysis Batch: 307605**

**Client Sample ID: AP-FERB-02**  
**Prep Type: Total/NA**  
**Prep Batch: 307534**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
Mercury	<0.00010		0.00100	0.000888		mg/L		89	75 - 125

**Lab Sample ID: 180-101686-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 307605**

**Client Sample ID: AP-FERB-02**  
**Prep Type: Total/NA**  
**Prep Batch: 307534**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Mercury	<0.00010		0.00100	0.000970		mg/L		97	75 - 125	9	20

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Metals

### Prep Batch: 307534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total/NA	Water	7470A	
180-101686-2	MGWC-3	Total/NA	Water	7470A	
180-101686-3	MGWC-2	Total/NA	Water	7470A	
180-101686-4	MGWC-8	Total/NA	Water	7470A	
180-101686-5	AP-DUP-01	Total/NA	Water	7470A	
180-101686-6	AP-DUP-02	Total/NA	Water	7470A	
180-101686-7	AP-FB-01	Total/NA	Water	7470A	
180-101686-8	AP-FB-02	Total/NA	Water	7470A	
180-101686-9	AP-FERB-01	Total/NA	Water	7470A	
180-101686-10	AP-FERB-02	Total/NA	Water	7470A	
MB 180-307534/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-307534/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-101686-10 MS	AP-FERB-02	Total/NA	Water	7470A	
180-101686-10 MSD	AP-FERB-02	Total/NA	Water	7470A	

### Analysis Batch: 307605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total/NA	Water	EPA 7470A	307534
180-101686-2	MGWC-3	Total/NA	Water	EPA 7470A	307534
180-101686-3	MGWC-2	Total/NA	Water	EPA 7470A	307534
180-101686-4	MGWC-8	Total/NA	Water	EPA 7470A	307534
180-101686-5	AP-DUP-01	Total/NA	Water	EPA 7470A	307534
180-101686-6	AP-DUP-02	Total/NA	Water	EPA 7470A	307534
180-101686-7	AP-FB-01	Total/NA	Water	EPA 7470A	307534
180-101686-8	AP-FB-02	Total/NA	Water	EPA 7470A	307534
180-101686-9	AP-FERB-01	Total/NA	Water	EPA 7470A	307534
180-101686-10	AP-FERB-02	Total/NA	Water	EPA 7470A	307534
MB 180-307534/1-A	Method Blank	Total/NA	Water	EPA 7470A	307534
LCS 180-307534/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	307534
180-101686-10 MS	AP-FERB-02	Total/NA	Water	EPA 7470A	307534
180-101686-10 MSD	AP-FERB-02	Total/NA	Water	EPA 7470A	307534

### Prep Batch: 307659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total Recoverable	Water	3005A	
180-101686-2	MGWC-3	Total Recoverable	Water	3005A	
180-101686-3	MGWC-2	Total Recoverable	Water	3005A	
180-101686-4	MGWC-8	Total Recoverable	Water	3005A	
180-101686-5	AP-DUP-01	Total Recoverable	Water	3005A	
180-101686-6	AP-DUP-02	Total Recoverable	Water	3005A	
180-101686-7	AP-FB-01	Total Recoverable	Water	3005A	
180-101686-8	AP-FB-02	Total Recoverable	Water	3005A	
180-101686-9	AP-FERB-01	Total Recoverable	Water	3005A	
180-101686-10	AP-FERB-02	Total Recoverable	Water	3005A	
MB 180-307659/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-307659/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-101686-1 MS	MGWC-1	Total Recoverable	Water	3005A	
180-101686-1 MSD	MGWC-1	Total Recoverable	Water	3005A	

# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-1

## Metals

### Analysis Batch: 307853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total Recoverable	Water	EPA 6020B	307659
180-101686-2	MGWC-3	Total Recoverable	Water	EPA 6020B	307659
180-101686-3	MGWC-2	Total Recoverable	Water	EPA 6020B	307659
180-101686-4	MGWC-8	Total Recoverable	Water	EPA 6020B	307659
180-101686-5	AP-DUP-01	Total Recoverable	Water	EPA 6020B	307659
180-101686-6	AP-DUP-02	Total Recoverable	Water	EPA 6020B	307659
180-101686-7	AP-FB-01	Total Recoverable	Water	EPA 6020B	307659
180-101686-8	AP-FB-02	Total Recoverable	Water	EPA 6020B	307659
180-101686-9	AP-FERB-01	Total Recoverable	Water	EPA 6020B	307659
180-101686-10	AP-FERB-02	Total Recoverable	Water	EPA 6020B	307659
MB 180-307659/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	307659
LCS 180-307659/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	307659
180-101686-1 MS	MGWC-1	Total Recoverable	Water	EPA 6020B	307659
180-101686-1 MSD	MGWC-1	Total Recoverable	Water	EPA 6020B	307659

## Field Service / Mobile Lab

### Analysis Batch: 305709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total/NA	Water	Field Sampling	
180-101686-2	MGWC-3	Total/NA	Water	Field Sampling	
180-101686-3	MGWC-2	Total/NA	Water	Field Sampling	
180-101686-4	MGWC-8	Total/NA	Water	Field Sampling	



301 Alpha Drive RIDC Park  
Pittsburgh, PA 15238  
Phone (412) 963-7058 Fax (412) 963-2468

**Chain of Custody Record**



<b>Client Information</b> Sampler: <u>1-Coker, J. Bash</u> Client Contact: <u>Ms. Lauren Petty</u> Phone: <u>404-592-0094</u> Lab PM: <u>Bortol, Veronica</u> Carrier Tracking No(s): <u>180-57786-11316.2</u>		COC No: <u>180-57786-11316.2</u> Page: <u>1</u> of <u>1</u> Job #: <u>180-57786-11316.2</u>					
Company: <u>Southern Company</u> Address: <u>PO BOX 2641 GSC8</u> City: <u>Birmingham</u> State, Zip: <u>AL, 35291</u> Phone: <u>205-992-5417(Tel)</u> Email: <u>Impetty@southernco.com</u>		Analysis Requested: TAT Requested (days): <u>Standard</u> PO #: <u>SCS10382606</u> WO #: <u>9315-R224, 9320-R228</u> Project #: <u>18019956</u> SSOW#: <u>9020B, 7470A</u>					
Project Name: <u>CCR - Plant McIntosh Ash Pond 1</u> Site: <u>Georgia</u>		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 Other: 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)					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Analysis Requested	Special Instructions/Note:
MGWC-1	1/29/20	1010	G	Water	N		metals: S, B, As
MGWC-3	1/29/20	1020	G	Water	N		Ba, Be, Cd, Co, Pb
MGWC-2	1/29/20	1200	G	Water	N		V, Mo, Se, Ti, Hg
MGWC-8	1/29/20	1345	G	Water	N		Cr
AP-DUP-01	1/29/20	—	G	Water	N		3 cooler total
AP-DUP-02	1/29/20	—	G	Water	N		
AP-FB-01	1/29/20	1440	G	Water	N		
AP-FB-02	1/29/20	1445	G	Water	N		
AP-FERB-01	1/29/20	1450	G	Water	N		
AP-FERB-02	1/29/20	1455	G	Water	N		
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal E.					
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements: 180-101686 Chain of Custody					
Empty Kit Relinquished by: <u>Amber</u> Date/Time: <u>1/29/20 1700</u> Company: <u>GEI</u>		Method of Shipment: Received by: <u>Veronica Bortol</u> Date/Time: <u>1-30-20</u> Company: <u>ETA</u>					
Relinquished by: <u>Amber</u> Date/Time: <u>1/29/20 1700</u> Company: <u>GEI</u>		Received by: <u>Veronica Bortol</u> Date/Time: <u>1-30-20</u> Company: <u>ETA</u>					
Relinquished by: <u>Amber</u> Date/Time: <u>1/29/20 1700</u> Company: <u>GEI</u>		Received by: <u>Veronica Bortol</u> Date/Time: <u>1-30-20</u> Company: <u>ETA</u>					
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:					





- 1
- 2
- 3
- 4
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- 9
- 10
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- 12
- 13

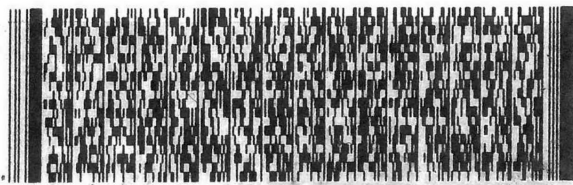


Uncorrected temp 2,1 °C  
 Thermometer ID 10  
 Initials JS  
 CF  
 PT-WI-SR-001 effective 11/8/18

**XH AGCA**

15238 PA-US PIT

1 of 3  
 TRK# 3900 2058 7633  
 # MASTER #  
 THU - 30 JAN 10:30A  
 PRIORITY OVERNIGHT



PITTSBURGH PA 15238  
 REF: (412) 983-0222  
 DEPT:

10  
 VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

ORIGIN ID: SAVA (770) 912-0703  
 LAUREN COKER  
 1375 PEACHTREE ST NE  
 ATLANTA, GA 30309  
 UNITED STATES US  
 SHIP DATE: 29JAN20  
 ACTWGT: 43.10 LB  
 CAD: 6994919/SSFE2021  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY



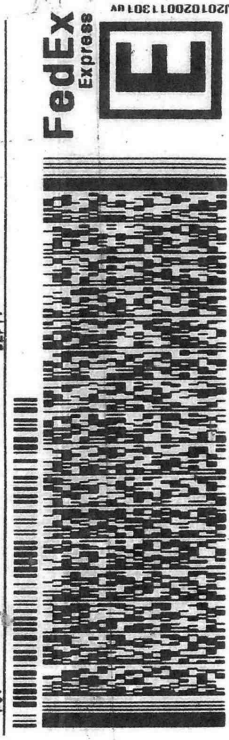
ORIGIN ID: SAVA (770) 912-0703  
LAUREN COKER  
1375 PEACHTREE ST NE  
ATLANTA, GA 30309  
UNITED STATES US

SHIP DATE: 28JAN20  
ACTWT: 28.60 LB  
CAD: 6994819/SSFE2C  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238

(412) 968-6222 REF: 0201



THU - 30 JAN 10:30A  
PRIORITY OVERNIGHT

3 of 3  
MFS# 3900 2058 7655  
Mstr# 3900 2058 7633

XH AGCA

15238  
PA-US PIT

Uncorrected temp  
Thermometer ID  
CF 0 N.L.C Initials B  
PT-WI-SR-001 effective 11/8/18



SHIP DATE: 28JAN20  
ACTWT: 28.60 LB  
CAD: 6994819/SSFE2C  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

DR  
ICA  
BORTOT

PITTSBURGH PA 15238



THU - 30 JAN 10:30A  
PRIORITY OVERNIGHT

2 of 3  
MFS# 3900 2058 7644  
Mstr# 3900 2058 7633

XH AGCA

15238  
PA-US PIT

Uncorrected temp  
Thermometer ID  
CF 0 N.L.C Initials B  
PT-WI-SR-001 effective 11/8/18





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:						
Client Contact: Shipping/Receiving		Phone:	Bortol, Veronica	State of Origin: Georgia	180-383988-1						
Company: TestAmerica Laboratories, Inc.		E-Mail: veronica.bortol@testamericainc.com		Page: Page 1 of 2							
Address: 13715 Rider Trail North,		Accreditations Required (See note):		Job #: 180-101686-1							
City: Earth City		<b>Analysis Requested</b>		<b>Preservation Codes:</b>							
State, Zip: MO., 63045		Due Date Requested: 2/11/2020		A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Ascorbic Acid V - MCAA W - pH 4.5 Z - other (specify)							
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		TAT Requested (days):		Other:							
E-mail:		PO #:									
Project Name: CCR - Plant McIntosh Ash Pond 1		WO #:									
Site: Southern McIntosh Ash Pond 1		Project #: 18019956									
		SSOW #:									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=BIOSUR, AS=AV)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_RaZ26/PreSep_0 Standard Target List	9315_RaZ26/PreSep_21 (MOD) Copy Analytes	RaZ26RaZ28_GPC	Total Number of Containers	Special Instructions/Note:
MGWC-1 (180-101686-1)	1/29/20	10:10 Eastern	Water	Water	X	X	X	X	X	1	
MGWC-3 (180-101686-2)	1/29/20	10:20 Eastern	Water	Water	X	X	X	X	X	1	
MGWC-2 (180-101686-3)	1/29/20	12:00 Eastern	Water	Water	X	X	X	X	X	1	
MGWC-8 (180-101686-4)	1/29/20	13:45 Eastern	Water	Water	X	X	X	X	X	1	
AP-DUP-01 (180-101686-5)	1/29/20	Eastern	Water	Water	X	X	X	X	X	1	
AP-DUP-02 (180-101686-6)	1/29/20	Eastern	Water	Water	X	X	X	X	X	1	
AP-FB-01 (180-101686-7)	1/29/20	14:40 Eastern	Water	Water	X	X	X	X	X	1	
AP-FB-02 (180-101686-8)	1/29/20	14:45 Eastern	Water	Water	X	X	X	X	X	1	
AP-FERB-01 (180-101686-9)	1/29/20	14:50 Eastern	Water	Water	X	X	X	X	X	1	
<p>Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.</p>											
<b>Possible Hazard Identification</b>											
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Special Instructions/OC Requirements:											
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____											
Relinquished by: _____ Date: 1/30/20 17:00 Company: PIRANIX											
Relinquished by: _____ Date: _____ Company: _____											
Relinquished by: _____ Date: _____ Company: _____											
Custody Seals Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____											

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Bortol, Veronica	Carrier Tracking No(s): 180-383988.2					
Client Contact: Shipping/Receiving		State of Origin: Georgia	Page: Page 2 of 2					
Company: TestAmerica Laboratories, Inc.		E-Mail: veronica.bortol@lestamericainc.com	Job #: 180-101686-1					
Address: 13715 Rider Trail North,		Accreditations Required (See note):						
City: Earth City	Due Date Requested: 2/11/2020	<b>Analysis Requested</b>						
State, Zip: MO, 63045	TAT Requested (days):							
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:							
Email:	WO #:							
Project Name: CCR - Plant McIntosh Ash Pond 1	Project #: 18019956	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PrecSep_0 Standard Target List	9315_Ra226/PrecSep_21 (MOD) Copy Analyses	Ra226Ra228_GFPc	Total Number of Containers	Special Instructions/Note:
Site: Southern McIntosh Ash Pond 1	SSOW#:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, OP=wastewat, BT=BIOSUB, A=Air)	Preservation Code:		
AP-FERB-02 (180-101686-10)		1/29/20	14:55 Eastern		Water			
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the labo								
<b>Possible Hazard Identification</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:						
Empty Kit Relinquished by:		Method of Shipment:						
Relinquished by: <i>[Signature]</i>		Date/Time: 1/30/20 17:00		Company: ERM Int		Received by: <i>[Signature]</i>		
Relinquished by:		Date/Time:		Company:		Received by:		
Relinquished by:		Date/Time:		Company:		Received by:		
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:				



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101686-1

**Login Number: 101686**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-101686-2

Client Project/Site: CCR - Plant McIntosh Ash Pond 1

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:  
2/26/2020 12:41:19 PM

Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*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.*

PA Lab ID: 02-00416





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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Job ID: 180-101686-2

Laboratory: Eurofins TestAmerica, Pittsburgh

### Narrative

#### Job Narrative 180-101686-2

### Comments

No additional comments.

### Receipt

The samples were received on 1/30/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.1° C, 10.3° C and 11.8° C.

### RAD

Methods 903.0, 9315: Radium-226 Prep Batch 160-459066

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MGWC-1 (180-101686-1), MGWC-3 (180-101686-2), MGWC-2 (180-101686-3), MGWC-8 (180-101686-4), AP-DUP-01 (180-101686-5), AP-DUP-02 (180-101686-6), AP-FB-01 (180-101686-7), AP-FB-02 (180-101686-8), AP-FERB-01 (180-101686-9), AP-FERB-02 (180-101686-10), (LCS 160-459066/1-A), (LCSD 160-459066/2-A) and (MB 160-459066/21-A)

Methods 904.0, 9320: Ra-228 Prep Batch 160-459068

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MGWC-1 (180-101686-1), MGWC-3 (180-101686-2), MGWC-2 (180-101686-3), MGWC-8 (180-101686-4), AP-DUP-01 (180-101686-5), AP-DUP-02 (180-101686-6), AP-FB-01 (180-101686-7), AP-FB-02 (180-101686-8), AP-FERB-01 (180-101686-9), AP-FERB-02 (180-101686-10), (LCS 160-459068/1-A), (LCSD 160-459068/2-A) and (MB 160-459068/21-A)

Method PrecSep\_0: Radium 228 Prep Batch 160-459068:

Insufficient sample volume was available to perform a sample duplicate for the following samples: MGWC-1 (180-101686-1), MGWC-3 (180-101686-2), MGWC-2 (180-101686-3), MGWC-8 (180-101686-4), AP-DUP-01 (180-101686-5), AP-DUP-02 (180-101686-6), AP-FB-01 (180-101686-7), AP-FB-02 (180-101686-8), AP-FERB-01 (180-101686-9) and AP-FERB-02 (180-101686-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-459066:

Insufficient sample volume was available to perform a sample duplicate for the following samples: MGWC-1 (180-101686-1), MGWC-3 (180-101686-2), MGWC-2 (180-101686-3), MGWC-8 (180-101686-4), AP-DUP-01 (180-101686-5), AP-DUP-02 (180-101686-6), AP-FB-01 (180-101686-7), AP-FB-02 (180-101686-8), AP-FERB-01 (180-101686-9) and AP-FERB-02 (180-101686-10). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Qualifiers

### Rad

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

## Glossary

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

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20 *
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

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



# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20 *
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20

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



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101686-1	MGWC-1	Water	01/29/20 10:10	01/30/20 09:00	
180-101686-2	MGWC-3	Water	01/29/20 10:20	01/30/20 09:00	
180-101686-3	MGWC-2	Water	01/29/20 12:00	01/30/20 09:00	
180-101686-4	MGWC-8	Water	01/29/20 13:45	01/30/20 09:00	
180-101686-5	AP-DUP-01	Water	01/29/20 00:00	01/30/20 09:00	
180-101686-6	AP-DUP-02	Water	01/29/20 00:00	01/30/20 09:00	
180-101686-7	AP-FB-01	Water	01/29/20 14:40	01/30/20 09:00	
180-101686-8	AP-FB-02	Water	01/29/20 14:45	01/30/20 09:00	
180-101686-9	AP-FERB-01	Water	01/29/20 14:50	01/30/20 09:00	
180-101686-10	AP-FERB-02	Water	01/29/20 14:55	01/30/20 09:00	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

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

#### Protocol References:

None = None

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

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

#### Laboratory References:

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

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Client Sample ID: MGWC-1

Lab Sample ID: 180-101686-1

Date Collected: 01/29/20 10:10

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.80 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.80 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-3

Lab Sample ID: 180-101686-2

Date Collected: 01/29/20 10:20

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.73 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:36	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.73 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-2

Lab Sample ID: 180-101686-3

Date Collected: 01/29/20 12:00

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:37	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-8

Lab Sample ID: 180-101686-4

Date Collected: 01/29/20 13:45

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.20 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 11:37	AJD	TAL SL
Instrument ID: GFPCBLUE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Client Sample ID: MGWC-8

## Lab Sample ID: 180-101686-4

Date Collected: 01/29/20 13:45

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.20 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-DUP-01

## Lab Sample ID: 180-101686-5

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.59 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 13:28	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.59 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-DUP-02

## Lab Sample ID: 180-101686-6

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.84 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 13:28	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.84 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:41	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-FB-01

## Lab Sample ID: 180-101686-7

Date Collected: 01/29/20 14:40

Matrix: Water

Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.21 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 13:28	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.21 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:42	CJQ	TAL SL
Instrument ID: GFPCORANGE										

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-101686-7**

**Date Collected: 01/29/20 14:40**

**Matrix: Water**

**Date Received: 01/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL

**Client Sample ID: AP-FB-02**

**Lab Sample ID: 180-101686-8**

**Date Collected: 01/29/20 14:45**

**Matrix: Water**

**Date Received: 01/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.05 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 13:28	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.05 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460260	02/13/20 16:42	CJQ	TAL SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-101686-9**

**Date Collected: 01/29/20 14:50**

**Matrix: Water**

**Date Received: 01/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.96 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 13:28	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.96 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460292	02/13/20 16:30	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-101686-10**

**Date Collected: 01/29/20 14:55**

**Matrix: Water**

**Date Received: 01/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.34 mL	1.0 g	459066	02/03/20 09:38	RBR	TAL SL
Total/NA	Analysis	9315		1			461713	02/25/20 13:28	AJD	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.34 mL	1.0 g	459068	02/03/20 10:05	RBR	TAL SL
Total/NA	Analysis	9320		1			460292	02/13/20 16:30	CJQ	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			461744	02/26/20 06:55	SMP	TAL SL
Instrument ID: NOEQUIP										

**Laboratory References:**

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

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

**Analyst References:**

- Lab: TAL SL
- Batch Type: Prep
  - RBR = Rachael Ratcliff
- Batch Type: Analysis
  - AJD = Audra DeMariano
  - CJQ = Caleb Quinn
  - SMP = Siobhan Perry

- 1
- 2
- 3
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- 13



# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

**Client Sample ID: MGWC-1**

**Lab Sample ID: 180-101686-1**

Date Collected: 01/29/20 10:10

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.20		0.186	0.215	1.00	0.117	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.188	U	0.246	0.247	1.00	0.410	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	83.0		40 - 110					02/03/20 10:05	02/13/20 16:41	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.39		0.308	0.327	5.00	0.410	pCi/L		02/26/20 06:55	1

**Client Sample ID: MGWC-3**

**Lab Sample ID: 180-101686-2**

Date Collected: 01/29/20 10:20

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.04		0.182	0.205	1.00	0.126	pCi/L	02/03/20 09:38	02/25/20 11:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					02/03/20 09:38	02/25/20 11:36	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.404		0.250	0.253	1.00	0.380	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	84.9		40 - 110					02/03/20 10:05	02/13/20 16:41	1

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# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Client Sample ID: MGWC-3

## Lab Sample ID: 180-101686-2

Date Collected: 01/29/20 10:20

Matrix: Water

Date Received: 01/30/20 09:00

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.44		0.309	0.326	5.00	0.380	pCi/L		02/26/20 06:55	1

## Client Sample ID: MGWC-2

## Lab Sample ID: 180-101686-3

Date Collected: 01/29/20 12:00

Matrix: Water

Date Received: 01/30/20 09:00

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.175		0.0920	0.0934	1.00	0.119	pCi/L	02/03/20 09:38	02/25/20 11:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.2		40 - 110					02/03/20 09:38	02/25/20 11:37	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0769	U	0.217	0.217	1.00	0.405	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.2		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	86.0		40 - 110					02/03/20 10:05	02/13/20 16:41	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0985	U	0.236	0.236	5.00	0.405	pCi/L		02/26/20 06:55	1

## Client Sample ID: MGWC-8

## Lab Sample ID: 180-101686-4

Date Collected: 01/29/20 13:45

Matrix: Water

Date Received: 01/30/20 09:00

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.920		0.178	0.196	1.00	0.136	pCi/L	02/03/20 09:38	02/25/20 11:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					02/03/20 09:38	02/25/20 11:37	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Client Sample ID: MGWC-8

Date Collected: 01/29/20 13:45

Date Received: 01/30/20 09:00

## Lab Sample ID: 180-101686-4

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.688		0.306	0.312	1.00	0.438	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.9		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	84.1		40 - 110					02/03/20 10:05	02/13/20 16:41	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.61		0.354	0.368	5.00	0.438	pCi/L		02/26/20 06:55	1

## Client Sample ID: AP-DUP-01

Date Collected: 01/29/20 00:00

Date Received: 01/30/20 09:00

## Lab Sample ID: 180-101686-5

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.16		0.184	0.212	1.00	0.108	pCi/L	02/03/20 09:38	02/25/20 13:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.6		40 - 110					02/03/20 09:38	02/25/20 13:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.173	U	0.200	0.200	1.00	0.397	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.6		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	83.7		40 - 110					02/03/20 10:05	02/13/20 16:41	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.989		0.272	0.291	5.00	0.397	pCi/L		02/26/20 06:55	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

**Client Sample ID: AP-DUP-02**

**Lab Sample ID: 180-101686-6**

Date Collected: 01/29/20 00:00

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.999		0.172	0.194	1.00	0.107	pCi/L	02/03/20 09:38	02/25/20 13:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.0		40 - 110					02/03/20 09:38	02/25/20 13:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.219	U	0.243	0.243	1.00	0.398	pCi/L	02/03/20 10:05	02/13/20 16:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.0		40 - 110					02/03/20 10:05	02/13/20 16:41	1
Y Carrier	83.7		40 - 110					02/03/20 10:05	02/13/20 16:41	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.22		0.298	0.311	5.00	0.398	pCi/L		02/26/20 06:55	1

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-101686-7**

Date Collected: 01/29/20 14:40

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00699	U	0.0497	0.0497	1.00	0.0979	pCi/L	02/03/20 09:38	02/25/20 13:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					02/03/20 09:38	02/25/20 13:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0464	U	0.204	0.204	1.00	0.376	pCi/L	02/03/20 10:05	02/13/20 16:42	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					02/03/20 10:05	02/13/20 16:42	1
Y Carrier	84.5		40 - 110					02/03/20 10:05	02/13/20 16:42	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-101686-7**

Date Collected: 01/29/20 14:40

Matrix: Water

Date Received: 01/30/20 09:00

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0394	U	0.210	0.210	5.00	0.376	pCi/L		02/26/20 06:55	1

**Client Sample ID: AP-FB-02**

**Lab Sample ID: 180-101686-8**

Date Collected: 01/29/20 14:45

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0686	U	0.0581	0.0584	1.00	0.138	pCi/L	02/03/20 09:38	02/25/20 13:28	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.1		40 - 110					02/03/20 09:38	02/25/20 13:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0567	U	0.203	0.203	1.00	0.378	pCi/L	02/03/20 10:05	02/13/20 16:42	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.1		40 - 110					02/03/20 10:05	02/13/20 16:42	1
Y Carrier	87.1		40 - 110					02/03/20 10:05	02/13/20 16:42	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.125	U	0.211	0.211	5.00	0.378	pCi/L		02/26/20 06:55	1

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-101686-9**

Date Collected: 01/29/20 14:50

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00573	U	0.0441	0.0441	1.00	0.0889	pCi/L	02/03/20 09:38	02/25/20 13:28	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	98.8		40 - 110					02/03/20 09:38	02/25/20 13:28	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-101686-9**

Date Collected: 01/29/20 14:50

Matrix: Water

Date Received: 01/30/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0317	U	0.211	0.211	1.00	0.373	pCi/L	02/03/20 10:05	02/13/20 16:30	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	98.8		40 - 110					02/03/20 10:05	02/13/20 16:30	1
Y Carrier	87.9		40 - 110					02/03/20 10:05	02/13/20 16:30	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0375	U	0.216	0.216	5.00	0.373	pCi/L		02/26/20 06:55	1

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-101686-10**

Date Collected: 01/29/20 14:55

Matrix: Water

Date Received: 01/30/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0214	U	0.0351	0.0352	1.00	0.0899	pCi/L	02/03/20 09:38	02/25/20 13:28	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	94.5		40 - 110					02/03/20 09:38	02/25/20 13:28	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.160	U	0.220	0.221	1.00	0.423	pCi/L	02/03/20 10:05	02/13/20 16:30	1
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	94.5		40 - 110					02/03/20 10:05	02/13/20 16:30	1
Y Carrier	85.6		40 - 110					02/03/20 10:05	02/13/20 16:30	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.181	U	0.223	0.224	5.00	0.423	pCi/L		02/26/20 06:55	1

Eurofins TestAmerica, Pittsburgh



# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-459066/21-A**  
**Matrix: Water**  
**Analysis Batch: 461713**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 459066**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.01010	U	0.0400	0.0400	1.00	0.0898	pCi/L	02/03/20 09:38	02/25/20 13:28	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	100		40 - 110		02/03/20 09:38	02/25/20 13:28	1			

**Lab Sample ID: LCS 160-459066/1-A**  
**Matrix: Water**  
**Analysis Batch: 461713**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 459066**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.638		1.00	1.00	0.0891	pCi/L	85	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	98.8		40 - 110						

**Lab Sample ID: LCSD 160-459066/2-A**  
**Matrix: Water**  
**Analysis Batch: 461713**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 459066**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	9.990		1.04	1.00	0.0885	pCi/L	88	75 - 125	0.17	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	96.7		40 - 110								

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

**Lab Sample ID: MB 160-459068/21-A**  
**Matrix: Water**  
**Analysis Batch: 460292**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 459068**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.008800	U	0.233	0.233	1.00	0.417	pCi/L	02/03/20 10:05	02/13/20 16:31	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	100		40 - 110		02/03/20 10:05	02/13/20 16:31	1			
Y Carrier	86.0		40 - 110		02/03/20 10:05	02/13/20 16:31	1			

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

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

**Lab Sample ID: LCS 160-459068/1-A**  
**Matrix: Water**  
**Analysis Batch: 460260**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 459068**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.11	9.085		1.07	1.00	0.368	pCi/L	100	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	98.8		40 - 110
Y Carrier	87.1		40 - 110

**Lab Sample ID: LCSD 160-459068/2-A**  
**Matrix: Water**  
**Analysis Batch: 460260**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 459068**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.11	8.490		1.02	1.00	0.385	pCi/L	93	75 - 125	0.28	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	96.7		40 - 110
Y Carrier	85.2		40 - 110

# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101686-2

## Rad

### Prep Batch: 459066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total/NA	Water	PrecSep-21	
180-101686-2	MGWC-3	Total/NA	Water	PrecSep-21	
180-101686-3	MGWC-2	Total/NA	Water	PrecSep-21	
180-101686-4	MGWC-8	Total/NA	Water	PrecSep-21	
180-101686-5	AP-DUP-01	Total/NA	Water	PrecSep-21	
180-101686-6	AP-DUP-02	Total/NA	Water	PrecSep-21	
180-101686-7	AP-FB-01	Total/NA	Water	PrecSep-21	
180-101686-8	AP-FB-02	Total/NA	Water	PrecSep-21	
180-101686-9	AP-FERB-01	Total/NA	Water	PrecSep-21	
180-101686-10	AP-FERB-02	Total/NA	Water	PrecSep-21	
MB 160-459066/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-459066/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-459066/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 459068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101686-1	MGWC-1	Total/NA	Water	PrecSep_0	
180-101686-2	MGWC-3	Total/NA	Water	PrecSep_0	
180-101686-3	MGWC-2	Total/NA	Water	PrecSep_0	
180-101686-4	MGWC-8	Total/NA	Water	PrecSep_0	
180-101686-5	AP-DUP-01	Total/NA	Water	PrecSep_0	
180-101686-6	AP-DUP-02	Total/NA	Water	PrecSep_0	
180-101686-7	AP-FB-01	Total/NA	Water	PrecSep_0	
180-101686-8	AP-FB-02	Total/NA	Water	PrecSep_0	
180-101686-9	AP-FERB-01	Total/NA	Water	PrecSep_0	
180-101686-10	AP-FERB-02	Total/NA	Water	PrecSep_0	
MB 160-459068/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-459068/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-459068/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

<b>Client Information</b> Sampler: <u>1-Coker, J. Bash</u> Lab PM: <u>Bortol, Veronica</u> Client Contact: <u>Ms. Lauren Petty</u> Phone: <u>404-592-0094</u> E-Mail: <u>veronica.bortol@testamericainc.com</u>		Carrier Tracking No(s): COC No: <u>180-57786-11316.2</u> Page: <u>1</u> of <u>1</u> Job #:	
Due Date Requested: TAT Requested (days): <u>Standard</u>		Analysis Requested	
PO #: <u>SCS10382606</u> WO #:		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 Other:	
Project Name: <u>CCR - Plant McIntosh Ash Pond 1</u> SOW#:		Special Instructions/Note: <u>metals: S, B, As, Ba, Be, Cd, Co, Pb, V, Mo, Se, Ti, Hg, Cr</u> <u>3 cooler total</u>	
Site: <u>Georgia</u>		Total Number of Containers:	
<b>Sample Identification</b>		Field Filtered Sample (Yes or No)	
Sample ID <u>MGWC-1</u>	Sample Date <u>1/29/20</u>	Sample Time <u>1010</u>	Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air) <u>Water</u>
<u>MGWC-3</u>	<u>1/29/20</u>	<u>1020</u>	<u>Water</u>
<u>MGWC-2</u>	<u>1/29/20</u>	<u>1200</u>	<u>Water</u>
<u>MGWC-8</u>	<u>1/29/20</u>	<u>1345</u>	<u>Water</u>
<u>AP-DUP-01</u>	<u>1/29/20</u>	<u>—</u>	<u>Water</u>
<u>AP-DUP-02</u>	<u>1/29/20</u>	<u>—</u>	<u>Water</u>
<u>AP-FB-01</u>	<u>1/29/20</u>	<u>1440</u>	<u>Water</u>
<u>AP-FB-02</u>	<u>1/29/20</u>	<u>1445</u>	<u>Water</u>
<u>AP-FERB-01</u>	<u>1/29/20</u>	<u>1450</u>	<u>Water</u>
<u>AP-FERB-02</u>	<u>1/29/20</u>	<u>1455</u>	<u>Water</u>
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal E.	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by: <u>Amber</u>		Method of Shipment:	
Relinquished by: <u>Amber</u>		Date/Time: <u>1/29/20 1700</u>	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	
Company: <u>GEI</u>		Received by: <u>Veronica Bortol</u>	
Company:		Date/Time: <u>1-30-20</u>	
Company:		Date/Time: <u>9:00</u>	
Company:		Date/Time:	





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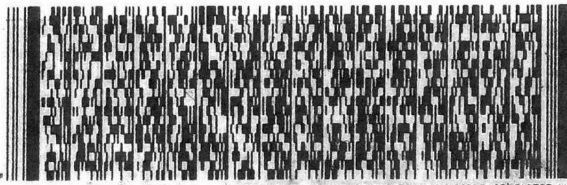


PT-WI-SR-001 effective 11/8/18  
 Uncorrected temp 2,1 °C  
 Thermometer ID 10  
 Initials JS  
 CF

**XH AGCA**

15238 PA-US PIT

1 of 3  
 TRK# 3900 2058 7633  
 # MASTER #  
 THU - 30 JAN 10:30A  
 PRIORITY OVERNIGHT



PITTSBURGH PA 15238  
 REF: (412) 983-0222  
 DEPT:

10  
 VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

ORIGIN ID: SAVA (770) 912-0703  
 LAUREN COKER  
 1375 PEACHTREE ST NE  
 ATLANTA, GA 30309  
 UNITED STATES US  
 SHIP DATE: 29JAN20  
 ACTWGT: 43.10 LB  
 CAD: 6994919/SSFE2021  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY



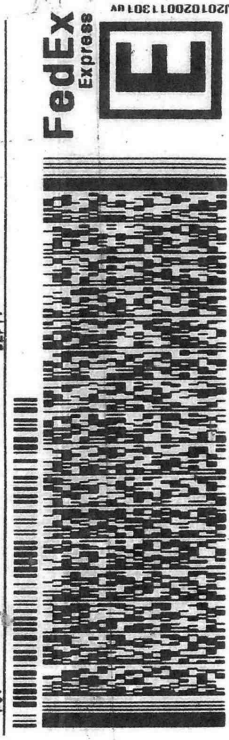
ORIGIN ID: SAVA (770) 912-0703  
LAUREN COKER  
1375 PEACHTREE ST NE  
ATLANTA, GA 30309  
UNITED STATES US

SHIP DATE: 28JAN20  
ACTWT: 28.60 LB  
CAD: 6994819/SSFE2C  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238

(412) 968-6222 REF: 0201



THU - 30 JAN 10:30A  
PRIORITY OVERNIGHT

3 of 3  
MFS# 3900 2058 7655  
Mstr# 3900 2058 7633

XH AGCA

15238  
PA-US PIT

Uncorrected temp  
Thermometer ID  
CF 0 N.L.C Initials B  
PT-WI-SR-001 effective 11/8/18



2-0203  
SHIP DATE: 28JAN20  
ACTWT: 28.60 LB  
CAD: 6994819/SSFE2C  
DIMS: 24x13x14 IN  
BILL THIRD PARTY

DR  
ICA  
BORTOT

PITTSBURGH PA 15238

FedEx Express



THU - 30 JAN 10:30A  
PRIORITY OVERNIGHT

15238  
PA-US PIT

2 of 3  
MFS# 3900 2058 7644  
Mstr# 3900 2058 7633

XH AGCA

Uncorrected temp  
Thermometer ID  
CF 0 N.L.C Initials B  
PT-WI-SR-001 effective 11/8/18





# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101686-2

**Login Number: 101686**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101686-2

**Login Number: 101686**

**List Number: 2**

**Creator: Harris, Lorin C**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 01/31/20 11:10 AM**

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



**LEVEL 2A LABORATORY DATA VALIDATIONS**

**McIntosh Ash Pond 1**

**Scan Event**

**January 2020**

## **Georgia Power Company – McIntosh Ash Pond 1**

### **Quality Control Review of Analytical Data – January 2020**

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Eurofins TestAmerica, Pittsburgh and St. Louis for groundwater samples collected at McIntosh AP1 between January 28, 2020 and January 29, 2020. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision-making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1 of this Appendix. SDG 180-101691 was revised by the laboratory to provide method blank data.

In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detected monitoring constituents listed in 40 CFR, Part 257, Appendix III and assessment monitoring constituents listed in 40 CFR, Part 257, Appendix IV. Test methods included Inductively Coupled Plasma – Mass Spectrometry (USEPA Method 6020B), Mercury in Liquid Wastes (USEPA Method 7470A), Radium-226 (USEPA 9315), and Radium-228 (USEPA Method 9320).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0)<sup>1</sup> and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)<sup>2</sup>. The review included an assessment of the results for completeness, precision (laboratory duplicate recoveries and matrix spike/matrix spike duplicate recoveries), accuracy (laboratory control samples and matrix spike samples), and blank contamination (field, equipment, and laboratory blanks). Sample receipt conditions, holding times, and chains of custody (COCs) were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytical methodology, method-specific criteria or professional judgment were used.

## DATA QUALITY OBJECTIVES

**Laboratory Precision:** Laboratory goals for precision were met.

**Field Precision:** Field goals for precision were met, with the exceptions of Thallium and combined Radium on MGWC-1 (180-101686-1) as described in the qualifications section below.

**Accuracy:** Laboratory goals for accuracy were met.

**Detection Limits:** Project goals for detection limits were met.

**Completeness:** There were no rejected analytical results for this event, resulting in a completion of 100%.

**Holding Times:** Holding time requirements were met.

## QUALIFICATIONS

In general, chemical results for the samples collected at the site were qualified on the basis of low precision or low accuracy or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the validation process:

**J:** The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample

**U:** The analyte was not detected above the method detection limit

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines except as specified below. The applied qualifications may not have been required for all samples collected at the site. A summary of sample qualifications can be found in Table 2 of this Appendix.

- Samples MGWC-1 (180-101686-1) and AP-DUP-01 (180-101686-5) were qualified as estimated (J) for Thallium and combined Radium as the field relative percent difference (RPD) exceeded QC criteria (56.00% and 33.71%, respectively above the limit of 25).

- Certain Lead and/or Thallium results in SDG 180-101629 were qualified as non-detect (U) due to the analyte(s) being detected at a similar concentration in an associated blank sample. As shown in Table 2, when the original sample result was below the RL, the method detection limit (MDL) was raised to the sample result as part of the qualification process.

Atlantic Coast Consulting, Inc. reviewed the laboratory data from McIntosh AP1 sampled between January 28, 2020 and January 29, 2020 in accordance with the analytical methods, the laboratory-specified QC criteria, and the guidelines. As described above, the results were acceptable for project use.

## **REFERENCES**

<sup>1</sup>USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0

<sup>2</sup>USEPA, January 2017, National Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Superfund Methods Data Review, Revision 0.0



TABLE 1

Georgia Power Company – McIntosh AP1

Sample Summary Table – January 2020

SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Analyses	
						Metals (6020B, 7470A)	Radium-226/-228 (9315, 9320)
101629	MGWA-10	1/28/2020	180-101629-1	GW		X	X
101629	MGWA-11	1/28/2020	180-101629-2	GW		X	X
101629	MGWA-6	1/28/2020	180-101629-3	GW		X	X
101629	MGWA-5	1/28/2020	180-101629-4	GW		X	X
101629	MGWA-6A	1/28/2020	180-101629-5	GW		X	X
101629	MGWC-12	1/28/2020	180-101629-6	GW		X	X
101629	MGWC-7	1/28/2020	180-101629-7	GW		X	X
101686	MGWC-1	1/29/2020	180-101686-1	GW		X	X
101686	MGWC-3	1/29/2020	180-101686-2	GW		X	X
101686	MGWC-2	1/29/2020	180-101686-3	GW		X	X
101686	MGWC-8	1/29/2020	180-101686-4	GW		X	X
101686	AP-DUP-01	1/29/2020	180-101686-5	GW	FD (MGWC-1)	X	X
101686	AP-DUP-02	1/29/2020	180-101686-6	GW	FD (MGWC-3)	X	X
101686	AP-FB-01	1/29/2020	180-101686-7	WQ	FB	X	X
101686	AP-FB-02	1/29/2020	180-101686-8	WQ	FB	X	X
101686	AP-FERB-01	1/29/2020	180-101686-9	WQ	EB	X	X
101686	AP-FERB-02	1/29/2020	180-101686-10	WQ	EB	X	X

Abbreviations:  
 EB – Equipment Blank  
 FB – Field Blank  
 FD – Field Duplicate  
 GW – Groundwater  
 QC – Quality Control  
 TDS – Total Dissolved Solids  
 WQ – Water Quality Control

TABLE 2

Georgia Power Company – McIntosh AP1

Qualifier Summary Table – January 2020

SDG	Field Identification	Constituent	New RL	New MDL or MDC	Qualifier	Reason
101686	MGWC-1	Thallium			J	RPD exceeds field goal
101686	AP-DUP-01	Thallium			J	RPD exceeds field goal
101686	MGWC-1	Radium combined			J	RPD exceeds field goal
101686	AP-DUP-01	Radium combined			J	RPD exceeds field goal
101629	MGWA-11	Lead		0.00016	U	Blank detection
101629	MGWA-11	Thallium		0.00033	U	Blank detection
101629	MGWA-5	Lead		0.00018	U	Blank detection
101629	MGWA-6	Thallium		0.00027	U	Blank detection

Abbreviations:

MDC – Minimum Detectable Concentration  
 MS/MSD – Matrix Spike / Matrix Spike Duplicate  
 MDL – Method Detection Limit  
 RL – Reporting Limit  
 RPD – Relative Percent Difference  
 SDG – Sample Delivery Group  
 TDS – Total Dissolved Solids

Qualifiers:

J – Estimated Result  
 U – Non-Detect Result

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-101691-1

Client Project/Site: CCR - Plant McIntosh Ash Pond 1  
Revision: 1

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:  
2/14/2020 10:43:23 AM  
Jill Colussy, Project Manager I  
(412)963-2444  
[jill.colussy@testamericainc.com](mailto:jill.colussy@testamericainc.com)

Designee for

Veronica Bortot, Senior Project Manager  
(412)963-2435  
[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*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.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

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**Job ID: 180-101691-1**

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**Laboratory: Eurofins TestAmerica, Pittsburgh**

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## Narrative

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**Job Narrative**  
**180-101691-1 RE**

## Note

This report has been revised to include the method blank.

## Receipt

The samples were received on 1/30/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.1° C, 10.3° C and 11.8° C.

## Metals

The continuing calibration verification (CCV) associated with batch 180-306922 recovered above the upper control limit for boron. The samples associated with this CCV were non-detects or less than the RL for the affected analytes; therefore, the data have been reported.



# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)



# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20 *
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	01-31-20 *
Wisconsin	State	998027800	08-31-20

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



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-101691-1	MGWC-23	Water	01/29/20 12:25	01/30/20 09:00	
180-101691-2	MGWC-21	Water	01/29/20 14:05	01/30/20 09:00	

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# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

Method	Method Description	Protocol	Laboratory
EPA 6020	Metals (ICP/MS)	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT

**Protocol References:**

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

**Laboratory References:**

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

**Client Sample ID: MGWC-23**

**Lab Sample ID: 180-101691-1**

**Date Collected: 01/29/20 12:25**

**Matrix: Water**

**Date Received: 01/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306214	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020		1			306922	02/12/20 17:29	RSK	TAL PIT
Instrument ID: NEMO										

**Client Sample ID: MGWC-21**

**Lab Sample ID: 180-101691-2**

**Date Collected: 01/29/20 14:05**

**Matrix: Water**

**Date Received: 01/30/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	306214	02/06/20 08:00	RJR	TAL PIT
Total Recoverable	Analysis	EPA 6020		1			306922	02/12/20 17:32	RSK	TAL PIT
Instrument ID: NEMO										

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

#### Analyst References:

Lab: TAL PIT

Batch Type: Prep

RJR = Ron Rosenbaum

Batch Type: Analysis

RSK = Robert Kurtz

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

**Client Sample ID: MGWC-23**

Date Collected: 01/29/20 12:25

Date Received: 01/30/20 09:00

**Lab Sample ID: 180-101691-1**

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.085		0.080	0.039	mg/L		02/06/20 08:00	02/12/20 17:29	1

**Client Sample ID: MGWC-21**

Date Collected: 01/29/20 14:05

Date Received: 01/30/20 09:00

**Lab Sample ID: 180-101691-2**

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.046	J	0.080	0.039	mg/L		02/06/20 08:00	02/12/20 17:32	1

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

## Method: EPA 6020 - Metals (ICP/MS)

Lab Sample ID: MB 180-306214/1-A  
 Matrix: Water  
 Analysis Batch: 306922

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 306214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039	^	0.080	0.039	mg/L		02/06/20 08:00	02/12/20 16:43	1

Lab Sample ID: LCS 180-306214/2-A  
 Matrix: Water  
 Analysis Batch: 306922

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 306214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Boron	1.25	1.16		mg/L		93	80 - 120



# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-101691-1

## Metals

### Prep Batch: 306214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101691-1	MGWC-23	Total Recoverable	Water	3005A	
180-101691-2	MGWC-21	Total Recoverable	Water	3005A	
MB 180-306214/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-306214/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

### Analysis Batch: 306922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-101691-1	MGWC-23	Total Recoverable	Water	EPA 6020	306214
180-101691-2	MGWC-21	Total Recoverable	Water	EPA 6020	306214
MB 180-306214/1-A	Method Blank	Total Recoverable	Water	EPA 6020	306214
LCS 180-306214/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020	306214

301 Alpha Drive RIDC Park  
Pittsburgh, PA 15238  
Phone (412) 963-7058 Fax (412) 963-2468

**Chain of Custody Record**

**681-Atlanta**



Environment Testing  
TestAmerica

<b>Client Information</b> Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSC8 Birmingham State Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: Impetty@southernco.com Project Name: CCR - Plant McIntosh Ash Pond 1 Site: Georgia		Lab PM: Bortot, Veronica E-Mail: veronica.bortot@testamericainc.com		Carrier Tracking No(s): Job #:		COC No: 180-57786-11316.1 Page 1 of 1	
Due Date Requested: TAT Requested (days): Standard PO #: SCS10382606 WO #: Project #: 18019956 SSOW#:		Date Requested: 1/29/20 1/29/20		Date/Time: 12:25 14:05		Matrix (W=water, S=solid, O=water/oil, BT=Tissue, AS=Air) Water Water Water Water Water Water Water Water Water	
<b>Sample Identification</b> MGWC-23 MGWC-21		Sample Date 1/29/20 1/29/20		Sample Time 12:25 14:05		Sample Type (C=Comp, G=grab) G G	
Field Filtered Sample (Yes or No) N N		Preservation Code N N		Total Number of Containers X X		Special Instructions/Note: Sample for Boron only 3 Coolers Total	
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 Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - HZSO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)		Analysis Requested		Special Instructions/Note: Sample for Boron only 3 Coolers Total		Barcode: 180-101691 Chain of Custody	
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date: 1/29/20 17:00		Date/Time: 1-30-20		Company: GEI	
<b>Deliverable Requested:</b> I, II, III, IV, Other (specify) Empty Kit Relinquished by: Relinquished by: Relinquished by: Custody Seals Intact: Δ Yes Δ No		Date: 1/29/20 17:00		Date/Time: 9:00		Company: Company	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab Special Instructions/QC Requirements:		Date: 1-30-20		Date/Time: 9:00		Company: Company	
Relinquished by: Relinquished by: Relinquished by: Custody Seal No.:		Date: 1-30-20		Date/Time: 9:00		Company: Company	
Relinquished by: Relinquished by: Relinquished by: Custody Seal No.:		Date: 1-30-20		Date/Time: 9:00		Company: Company	



# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-101691-1

**Login Number: 101691**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Product Name: Low-Flow System

Date: 2020-01-29 13:52:32

Project Information:

Operator Name J.Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis peristaltic pump  
Tubing Type LDPE  
Tubing Diameter .17 in  
Tubing Length 47.26 ft

Pump placement from TOC 1 ft

Well Information:

Well ID MGWC-8  
Well diameter 2 in  
Well Total Depth 52.56 ft  
Screen Length 10 ft  
Depth to Water 30 ft

Pumping Information:

Final Pumping Rate 120 mL/min  
Total System Volume 0.3009414 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 1.2 in  
Total Volume Pumped 6.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	13:25:36	2100.66	20.13	5.75	957.02	2.00	30.51	0.42	78.03
Last 5	13:30:36	2400.66	20.25	5.82	955.47	1.75	30.51	0.33	67.13
Last 5	13:35:36	2700.66	20.35	5.71	957.87	0.15	30.51	0.39	76.17
Last 5	13:40:36	3000.66	20.48	5.74	954.22	0.59	30.51	0.39	71.68
Last 5	13:45:36	3300.66	20.48	5.76	962.81	0.58	30.51	0.30	69.39
Variance 0			0.10	-0.11	2.40			0.06	9.04
Variance 1			0.13	0.03	-3.64			-0.00	-4.49
Variance 2			0.00	0.02	8.59			-0.09	-2.29

Notes

Sampled at 1345

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-28 15:27:26

Project Information:

Operator Name J.Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis peristaltic pump  
Tubing Type LDPE  
Tubing Diameter .17 in  
Tubing Length 57 ft

Pump placement from TOC 2.5 ft

Well Information:

Well ID MGWA-5  
Well diameter 2 in  
Well Total Depth 63.09 ft  
Screen Length 10 ft  
Depth to Water 22.51 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.3444151 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2.88 in  
Total Volume Pumped 3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 0
Last 5	15:03:36	900.03	20.48	7.51	262.60	0.73	22.59	0.88	51.58
Last 5	15:08:36	1200.02	20.22	7.51	262.26	1.00	22.60	0.82	50.73
Last 5	15:13:36	1500.03	20.12	7.49	262.51	1.05	22.61	0.76	49.75
Last 5	15:18:36	1800.03	20.16	7.48	264.03	0.97	22.62	0.71	47.30
Last 5	15:23:36	2100.02	20.26	7.46	264.16	1.23	22.63	0.70	44.20
Variance 0			-0.10	-0.02	0.25			-0.06	-0.98
Variance 1			0.04	-0.01	1.52			-0.06	-2.45
Variance 2			0.09	-0.01	0.13			-0.01	-3.10

Notes

Sampled at 1525

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-28 14:38:38

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 37 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-6  
Well diameter 2 in  
Well Total Depth 42.20 ft  
Screen Length 10 ft  
Depth to Water 19.70 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.2551467 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2.4 in  
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Stabilization									
Last 5	14:16:48	1200.02	20.08	7.21	536.75	0.69	19.85	0.22	42.24
Last 5	14:21:48	1500.02	20.03	7.21	535.33	1.06	19.90	0.19	44.91
Last 5	14:26:48	1800.02	19.96	7.19	536.54	0.33	19.90	0.17	38.47
Last 5	14:31:48	2100.02	20.12	7.17	536.19	0.45	19.90	0.15	26.49
Last 5	14:36:48	2400.02	19.94	7.17	535.61	0.56	19.90	0.14	21.03
Variance 0			-0.08	-0.02	1.21			-0.02	-6.43
Variance 1			0.16	-0.02	-0.35			-0.01	-11.98
Variance 2			-0.18	-0.00	-0.58			-0.02	-5.46

Notes

Sampled at 1440

Grab Samples



Product Name: Low-Flow System

Date: 2020-01-28 15:28:23

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 37 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-6A  
Well diameter 2 in  
Well Total Depth 42.58 ft  
Screen Length 10 ft  
Depth to Water 18.33 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.2551467 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 12.24 in  
Total Volume Pumped 8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Last 5	15:06:36	600.02	19.09	7.31	505.38	2.10	18.90	0.40	-119.18
Last 5	15:11:36	900.02	19.36	7.35	492.37	1.06	19.03	0.30	-126.03
Last 5	15:16:36	1200.02	19.46	7.36	488.95	1.34	19.21	0.22	-130.38
Last 5	15:21:38	1502.02	19.58	7.36	491.91	2.01	19.31	0.19	-134.46
Last 5	15:26:38	1802.02	19.78	7.36	482.14	1.98	19.35	0.17	-133.25
Variance 0			0.10	0.01	-3.42			-0.08	-4.36
Variance 1			0.13	0.00	2.96			-0.03	-4.08
Variance 2			0.19	0.00	-9.77			-0.02	1.22

Notes

Sampled at 1540

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-28 13:04:14

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 47 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-10  
Well diameter 2 in  
Well Total Depth 53.07 ft  
Screen Length 10 ft  
Depth to Water 16.54 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2997809 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 33.6 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Last 5	12:42:00	900.02	20.28	5.95	73.20	0.27	18.69	2.38	91.79
Last 5	12:47:00	1200.02	20.47	5.88	71.92	0.18	18.93	2.21	88.89
Last 5	12:52:00	1500.02	20.43	5.83	69.93	0.88	19.06	2.03	87.77
Last 5	12:57:00	1800.02	20.24	5.80	69.79	0.78	19.12	1.97	86.55
Last 5	13:02:00	2100.02	20.29	5.78	69.44	0.96	9.34	1.90	86.31
Variance 0			-0.05	-0.04	-1.98			-0.18	-1.13
Variance 1			-0.18	-0.04	-0.14			-0.06	-1.21
Variance 2			0.05	-0.02	-0.35			-0.07	-0.24

Notes

Sampled at 1310

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-28 13:39:36

Project Information:

Operator Name J.Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis peristaltic pump  
Tubing Type LDPE  
Tubing Diameter .17 in  
Tubing Length 55 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-11  
Well diameter 2 in  
Well Total Depth 56.64 ft  
Screen Length 10 ft  
Depth to Water 20.21 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.3354883 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 1.44 in  
Total Volume Pumped 3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:16:52	900.33	19.69	7.26	325.13	0.30	20.28	0.34	-86.26
Last 5	13:21:52	1200.33	19.81	7.32	324.17	0.21	20.30	0.28	-92.60
Last 5	13:26:52	1500.33	19.95	7.35	326.30	0.32	20.31	0.24	-95.17
Last 5	13:31:52	1800.33	20.12	7.38	324.70	0.34	20.32	0.22	-97.34
Last 5	13:36:52	2100.33	20.16	7.40	325.94	0.29	20.33	0.24	-98.92
Variance 0			0.14	0.03	2.13			-0.04	-2.57
Variance 1			0.17	0.03	-1.60			-0.02	-2.17
Variance 2			0.04	0.02	1.23			0.01	-1.58

Notes

Sampled 1340

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-29 10:05:43

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type QED bladder  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 50 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-1  
Well diameter 2 in  
Well Total Depth 56.20 ft  
Screen Length 10 ft  
Depth to Water 37.32 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.3131711 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 19.56 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Last 5	09:37:35	600.02	18.84	7.14	562.71	2.76	38.59	1.07	26.39
Last 5	09:42:35	900.02	19.16	7.17	632.41	2.33	38.60	0.77	20.66
Last 5	09:47:35	1200.02	19.41	7.18	638.70	1.67	38.85	0.58	17.56
Last 5	09:52:35	1500.02	19.45	7.18	635.53	1.48	38.90	0.69	15.60
Last 5	09:57:35	1800.02	19.54	7.19	640.40	1.47	38.95	0.64	15.52
Variance 0			0.25	0.01	6.29			-0.19	-3.10
Variance 1			0.05	0.00	-3.17			0.12	-1.96
Variance 2			0.09	0.01	4.87			-0.05	-0.08

Notes

Sampled at 1010 AP-DUP-01 taken here

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-29 12:07:15

Project Information:

Operator Name J.Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis peristaltic pump  
Tubing Type LDPE  
Tubing Diameter .17 in  
Tubing Length 32.06 ft

Pump placement from TOC 1.5 ft

Well Information:

Well ID MGWC-2  
Well diameter 2 in  
Well Total Depth 37.36 ft  
Screen Length 10 ft  
Depth to Water 20 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.2330973 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 10.08 in  
Total Volume Pumped 3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0%		+/- 10%	+/- 0
Last 5	11:39:45	900.91	19.23	7.23	810.06	1.98	20.77	0.27	7.18
Last 5	11:44:45	1200.91	19.84	7.25	800.98	1.80	20.87	0.23	1.86
Last 5	11:49:45	1500.92	19.82	7.27	798.97	1.94	20.85	0.20	-0.56
Last 5	11:54:45	1800.91	19.65	7.29	803.09	1.83	20.88	0.22	-1.88
Last 5	11:59:45	2100.92	19.46	7.30	798.93	1.61	20.89	0.24	-1.88
Variance 0			-0.02	0.02	-2.01			-0.02	-2.42
Variance 1			-0.17	0.01	4.12			0.02	-1.32
Variance 2			-0.19	0.02	-4.15			0.02	0.00

Notes

Sampled at 1200

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-29 10:31:27

Project Information:

Operator Name J.Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis peristaltic pump  
Tubing Type LDPE  
Tubing Diameter .17 in  
Tubing Length 33.44 ft

Pump placement from TOC 1.5 ft

Well Information:

Well ID MGWC-3  
Well diameter 2 in  
Well Total Depth 38.74 ft  
Screen Length 10 ft  
Depth to Water 17 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.2392569 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 4.08 in  
Total Volume Pumped 3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	09:55:40	900.03	17.42	6.53	606.66	1.21	17.57	0.34	18.45
Last 5	10:00:40	1199.99	17.85	6.59	606.12	1.35	17.59	0.28	13.94
Last 5	10:10:40	1799.98	18.30	6.65	606.60	0.38	17.60	0.22	9.99
Last 5	10:15:40	2099.98	18.71	6.67	608.32	1.53	17.63	0.21	9.50
Last 5	10:20:40	2399.98	18.82	6.68	607.80	1.71	17.65	0.20	9.34
Variance 0			0.45	0.06	0.48			-0.06	-3.95
Variance 1			0.41	0.02	1.72			-0.02	-0.49
Variance 2			0.11	0.02	-0.52			-0.01	-0.16

Notes

Sampled at 1020

Grab Samples



Product Name: Low-Flow System

Date: 2020-01-28 16:58:32

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length ft

Pump placement from TOC ft

Well Information:

Well ID MGWC-7  
Well diameter 2 in  
Well Total Depth 42.29 ft  
Screen Length 10 ft  
Depth to Water 20.49 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.09 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 6.72 in  
Total Volume Pumped 7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Stabilization									
Last 5	16:34:36	1800.02	20.92	6.43	523.99	0.31	21.00	0.18	25.22
Last 5	16:39:36	2100.02	20.97	6.49	530.70	0.25	21.00	0.15	21.97
Last 5	16:44:36	2400.02	20.89	6.57	532.88	0.41	21.00	0.15	16.47
Last 5	16:49:36	2700.02	20.66	6.61	532.56	0.62	21.03	0.15	16.09
Last 5	16:54:36	3000.02	20.67	6.61	536.64	0.55	21.05	0.15	16.41
Variance 0			-0.08	0.09	2.18			-0.01	-5.51
Variance 1			-0.23	0.03	-0.32			-0.00	-0.38
Variance 2			0.02	0.01	4.08			-0.00	0.32

Notes

Sampled at 1705

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-28 16:51:13

Project Information:

Operator Name J.Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 445707  
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis peristaltic pump  
Tubing Type LDPE  
Tubing Diameter .17 in  
Tubing Length 47.70 ft

Pump placement from TOC 2.5 ft

Well Information:

Well ID MGWC-12  
Well diameter 2 in  
Well Total Depth 52.90 ft  
Screen Length 10 ft  
Depth to Water 25 ft

Pumping Information:

Final Pumping Rate 0 mL/min  
Total System Volume 0.3029053 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:29:01	1200.02	19.19	7.35	315.03	2.20	25.37	0.78	-125.52
Last 5	16:34:01	1500.02	19.26	7.27	312.80	1.72	25.40	0.34	-124.19
Last 5	16:39:02	1800.97	19.32	7.26	302.84	1.49	25.40	0.26	-125.77
Last 5	16:44:03	2101.97	19.37	7.25	297.19	1.45	25.42	0.29	-125.99
Last 5	16:49:03	2401.97	19.38	7.25	291.04	1.01	25.42	0.22	-126.90
Variance 0			0.07	-0.02	-9.97			-0.09	-1.59
Variance 1			0.05	-0.01	-5.64			0.03	-0.22
Variance 2			0.00	-0.00	-6.15			-0.07	-0.91

Notes

Sampled at 1650

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-29 14:00:06

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 77 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-21  
Well diameter 2 in  
Well Total Depth 82.68 ft  
Screen Length 10 ft  
Depth to Water 31.39 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.4336836 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 41.88 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Last 5	13:32:16	600.02	20.07	7.56	283.75	1.59	33.85	0.34	-119.69
Last 5	13:37:16	900.02	20.17	7.59	285.90	1.12	34.12	0.27	-120.55
Last 5	13:42:16	1200.02	20.12	7.67	294.15	1.08	34.70	0.22	-110.85
Last 5	13:47:16	1500.02	20.06	7.73	291.90	0.68	34.82	0.19	-96.80
Last 5	13:52:16	1800.02	20.04	7.75	291.02	0.71	34.88	0.16	-94.31
Variance 0			-0.05	0.08	8.25			-0.05	9.70
Variance 1			-0.05	0.06	-2.25			-0.03	14.05
Variance 2			-0.02	0.03	-0.88			-0.03	2.49

Notes

Sampled at 1405

Grab Samples

Product Name: Low-Flow System

Date: 2020-01-29 12:33:45

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601534  
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type QED bladder  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 37 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-23  
Well diameter 2 in  
Well Total Depth 43.33 ft  
Screen Length 10 ft  
Depth to Water 33.21 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2551467 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 10.68 in  
Total Volume Pumped 9.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10%
Last 5	11:54:05	2700.11	18.73	7.33	439.42	0.41	34.03	1.02	-48.48
Last 5	11:59:05	3000.05	18.69	7.34	527.56	0.57	34.05	1.17	-46.70
Last 5	12:04:05	3300.02	18.68	7.32	529.75	0.35	34.08	0.84	-44.88
Last 5	12:09:05	3600.02	18.66	7.42	526.55	0.21	34.10	0.72	-47.85
Last 5	12:14:05	3900.02	18.74	7.42	525.08	0.34	34.10	0.71	-46.26
Variance 0			-0.01	-0.02	2.19			-0.33	1.82
Variance 1			-0.02	0.10	-3.19			-0.13	-2.97
Variance 2			0.09	-0.01	-1.47			-0.01	1.59

Notes

Sampled at 1225

Grab Samples

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-103433-1

Client Project/Site: CCR - Plant McIntosh Ash Pond 1  
Revision: 3

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:  
5/19/2020 8:58:25 PM

Shali Brown, Project Manager II  
(615)301-5031  
[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*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.*

PA Lab ID: 02-00416



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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Job ID: 180-103433-1**

**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

### Revised Job Narrative 180-103433-1

051920 Revised Report to remove pH analyzed in the lab at client request; this report replaces the report previously issued on 040820.

Revised : to include job 180-103435

Revision: to reanalyze metals samples 9 and 11

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/11/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.4° C, 3.7° C, 4.9° C and 17.3° C.

#### Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): AP-DUP-01 (180-103435-10). The container labels list MGWC-2, while the COC lists AP-DUP-01.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6020B: The following samples were diluted due to the nature of the sample matrix: MGWC-3 (180-103435-5), MGWC-7 (180-103435-6), MGWC-2 (180-103435-7), MGWC-8 (180-103435-8), MGWC-1 (180-103435-9), AP-DUP-01 (180-103435-10) and AP-DUP-02 (180-103435-11). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Qualifiers

### HPLC/IC

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

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)
MQL	Method Quantitation Limit
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)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-103433-1	MGWA-11	Water	03/09/20 17:00	03/11/20 09:00	
180-103433-2	MGWA-10	Water	03/09/20 17:05	03/11/20 09:00	
180-103435-1	MGWA-5	Water	03/10/20 09:45	03/11/20 09:00	
180-103435-2	MGWA-6	Water	03/10/20 11:15	03/11/20 09:00	
180-103435-3	MGWA-6A	Water	03/10/20 10:00	03/11/20 09:00	
180-103435-4	MGWC-12	Water	03/10/20 10:45	03/11/20 09:00	
180-103435-5	MGWC-3	Water	03/10/20 10:55	03/11/20 09:00	
180-103435-6	MGWC-7	Water	03/10/20 12:40	03/11/20 09:00	
180-103435-7	MGWC-2	Water	03/10/20 12:00	03/11/20 09:00	
180-103435-8	MGWC-8	Water	03/10/20 13:05	03/11/20 09:00	
180-103435-9	MGWC-1	Water	03/10/20 15:00	03/11/20 09:00	
180-103435-10	AP-DUP-01	Water	03/10/20 00:00	03/11/20 09:00	
180-103435-11	AP-DUP-02	Water	03/10/20 00:00	03/11/20 09:00	
180-103435-12	AP-FB-01	Water	03/10/20 12:50	03/11/20 09:00	
180-103435-13	AP-FB-02	Water	03/10/20 12:55	03/11/20 09:00	
180-103435-14	AP-FERB-01	Water	03/10/20 13:00	03/11/20 09:00	
180-103435-15	AP-FERB-02	Water	03/10/20 13:05	03/11/20 09:00	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

#### Protocol References:

EPA = US Environmental Protection Agency

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

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

#### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWA-11

## Lab Sample ID: 180-103433-1

Date Collected: 03/09/20 17:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			310538	03/20/20 16:31	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 13:58	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 16:41	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310061	03/16/20 12:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 15:50	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

## Client Sample ID: MGWA-10

## Lab Sample ID: 180-103433-2

Date Collected: 03/09/20 17:05

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHIC2100A		1			310538	03/20/20 16:47	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:10	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 16:54	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310061	03/16/20 12:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 15:51	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

## Client Sample ID: MGWA-5

## Lab Sample ID: 180-103435-1

Date Collected: 03/10/20 09:45

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 17:13	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:22	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 17:06	RSK	TAL PIT

Eurofins TestAmerica, Pittsburgh



# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWA-5

Lab Sample ID: 180-103435-1

Date Collected: 03/10/20 09:45

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:09	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6

Lab Sample ID: 180-103435-2

Date Collected: 03/10/20 11:15

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			310689	03/21/20 17:29	SAC	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310808	03/22/20 14:25	WTR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310945	03/23/20 17:09	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:10	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6A

Lab Sample ID: 180-103435-3

Date Collected: 03/10/20 10:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			310689	03/21/20 17:45	SAC	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310808	03/22/20 14:27	WTR	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310945	03/23/20 17:11	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:11	NAM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWC-12

## Lab Sample ID: 180-103435-4

Date Collected: 03/10/20 10:45

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 18:01	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:30	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 17:14	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:12	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

## Client Sample ID: MGWC-3

## Lab Sample ID: 180-103435-5

Date Collected: 03/10/20 10:55

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 18:48	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:32	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		5			310945	03/23/20 17:16	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:13	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

## Client Sample ID: MGWC-7

## Lab Sample ID: 180-103435-6

Date Collected: 03/10/20 12:40

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 20:51	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:35	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		5			310945	03/23/20 17:19	RSK	TAL PIT

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# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWC-7

## Lab Sample ID: 180-103435-6

Date Collected: 03/10/20 12:40

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:14	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
		Instrument ID: NOEQUIP								

## Client Sample ID: MGWC-2

## Lab Sample ID: 180-103435-7

Date Collected: 03/10/20 12:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			310689	03/21/20 21:07	SAC	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310808	03/22/20 14:37	WTR	TAL PIT
		Instrument ID: NEMO								
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		5			310945	03/23/20 17:21	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:15	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
		Instrument ID: NOEQUIP								

## Client Sample ID: MGWC-8

## Lab Sample ID: 180-103435-8

Date Collected: 03/10/20 13:05

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			310689	03/21/20 21:38	SAC	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 300.0 R2.1		5			310689	03/21/20 21:54	SAC	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310808	03/22/20 14:40	WTR	TAL PIT
		Instrument ID: NEMO								
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		5			310945	03/23/20 17:24	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:18	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
		Instrument ID: NOEQUIP								

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: MGWC-1**

**Lab Sample ID: 180-103435-9**

**Date Collected: 03/10/20 15:00**

**Matrix: Water**

**Date Received: 03/11/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 23:13	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		5			312060	04/03/20 12:27	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:19	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

**Client Sample ID: AP-DUP-01**

**Lab Sample ID: 180-103435-10**

**Date Collected: 03/10/20 00:00**

**Matrix: Water**

**Date Received: 03/11/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 22:10	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:50	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		5			310945	03/23/20 17:29	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:20	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

**Client Sample ID: AP-DUP-02**

**Lab Sample ID: 180-103435-11**

**Date Collected: 03/10/20 00:00**

**Matrix: Water**

**Date Received: 03/11/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 23:29	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		5			312060	04/03/20 12:29	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:21	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: AP-FB-01

Date Collected: 03/10/20 12:50

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 20:03	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:55	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 17:39	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:22	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

## Client Sample ID: AP-FB-02

Date Collected: 03/10/20 12:55

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 20:19	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 14:57	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 17:41	RSK	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			310256	03/17/20 17:23	NAM	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT

## Client Sample ID: AP-FERB-01

Date Collected: 03/10/20 13:00

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1 Instrument ID: CHICS2100B		1			310689	03/21/20 20:35	SAC	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310808	03/22/20 15:00	WTR	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B Instrument ID: NEMO		1			310945	03/23/20 17:44	RSK	TAL PIT

Eurofins TestAmerica, Pittsburgh

# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: AP-FERB-01

Date Collected: 03/10/20 13:00

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:24	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
		Instrument ID: NOEQUIP								

## Client Sample ID: AP-FERB-02

Date Collected: 03/10/20 13:05

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			310688	03/21/20 23:34	SAC	TAL PIT
		Instrument ID: CHIC2100A								
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310808	03/22/20 15:02	WTR	TAL PIT
		Instrument ID: NEMO								
Total Recoverable	Prep	3005A			50 mL	50 mL	310194	03/17/20 11:48	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			310945	03/23/20 17:46	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			50 mL	50 mL	310196	03/17/20 11:55	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			310256	03/17/20 17:25	NAM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	309763	03/12/20 12:25	AVS	TAL PIT
		Instrument ID: NOEQUIP								

### Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

### Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

NAM = Nicole Marfisi

RJR = Ron Rosenbaum

Batch Type: Analysis

AVS = Abbey Smith

MJH = Matthew Hartman

NAM = Nicole Marfisi

RSK = Robert Kurtz

SAC = Shawn Clemente

WTR = Bill Reinheimer

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: MGWA-11**

**Lab Sample ID: 180-103433-1**

Date Collected: 03/09/20 17:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.5		1.0	0.32	mg/L			03/20/20 16:31	1
Fluoride	0.19		0.10	0.026	mg/L			03/20/20 16:31	1
Sulfate	3.4		1.0	0.38	mg/L			03/20/20 16:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 13:58	1
Arsenic	0.00073	J	0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 16:41	1
Barium	0.094		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 13:58	1
Beryllium	0.00018	J B	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 13:58	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 16:41	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 13:58	1
Calcium	32		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 16:41	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 13:58	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 13:58	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 13:58	1
Lithium	0.017		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 13:58	1
Molybdenum	0.0012	J	0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 13:58	1
Thallium	0.00036	J B	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 13:58	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/16/20 12:05	03/17/20 15:50	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	190		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: MGWA-10**

**Lab Sample ID: 180-103433-2**

Date Collected: 03/09/20 17:05

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.4		1.0	0.32	mg/L			03/20/20 16:47	1
Fluoride	0.061	J	0.10	0.026	mg/L			03/20/20 16:47	1
Sulfate	4.2		1.0	0.38	mg/L			03/20/20 16:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:10	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 16:54	1
Barium	0.023		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:10	1
Beryllium	0.00045	J B	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:10	1
Boron	0.045	J	0.080	0.039	mg/L		03/17/20 11:48	03/23/20 16:54	1
Cadmium	0.00023	J	0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:10	1
Calcium	4.0		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 16:54	1
Chromium	0.0042		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:10	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:10	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:10	1
Lithium	0.0088		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:10	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWA-10

## Lab Sample ID: 180-103433-2

Date Collected: 03/09/20 17:05

Matrix: Water

Date Received: 03/11/20 09:00

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:10	1
<b>Thallium</b>	<b>0.00058</b>	<b>J B</b>	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:10	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/16/20 12:05	03/17/20 15:51	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>56</b>		10	10	mg/L			03/12/20 12:25	1

## Client Sample ID: MGWA-5

## Lab Sample ID: 180-103435-1

Date Collected: 03/10/20 09:45

Matrix: Water

Date Received: 03/11/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>5.4</b>		1.0	0.32	mg/L			03/21/20 17:13	1
<b>Fluoride</b>	<b>0.055</b>	<b>J</b>	0.10	0.026	mg/L			03/21/20 17:13	1
<b>Sulfate</b>	<b>5.2</b>		1.0	0.38	mg/L			03/21/20 17:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:22	1
<b>Arsenic</b>	<b>0.00031</b>	<b>J</b>	0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:06	1
<b>Barium</b>	<b>0.043</b>		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:22	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:22	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:06	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:22	1
<b>Calcium</b>	<b>29</b>		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:06	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:22	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:22	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:22	1
<b>Lithium</b>	<b>0.011</b>		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:22	1
<b>Molybdenum</b>	<b>0.00093</b>	<b>J</b>	0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:22	1
<b>Thallium</b>	<b>0.00015</b>	<b>J B</b>	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:22	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:09	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>170</b>		10	10	mg/L			03/12/20 12:25	1

## Client Sample ID: MGWA-6

## Lab Sample ID: 180-103435-2

Date Collected: 03/10/20 11:15

Matrix: Water

Date Received: 03/11/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>5.1</b>		1.0	0.32	mg/L			03/21/20 17:29	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: MGWA-6**

**Lab Sample ID: 180-103435-2**

Date Collected: 03/10/20 11:15

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.045	J	0.10	0.026	mg/L			03/21/20 17:29	1
Sulfate	5.0		1.0	0.38	mg/L			03/21/20 17:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:25	1
Arsenic	0.0093		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:09	1
Barium	0.031		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:25	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:25	1
Boron	0.051	J	0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:09	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:25	1
Calcium	100		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:09	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:25	1
Cobalt	0.00038	J	0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:25	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:25	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:25	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:25	1
Thallium	0.00019	J B	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:25	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:10	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: MGWA-6A**

**Lab Sample ID: 180-103435-3**

Date Collected: 03/10/20 10:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.0		1.0	0.32	mg/L			03/21/20 17:45	1
Fluoride	0.048	J	0.10	0.026	mg/L			03/21/20 17:45	1
Sulfate	2.4		1.0	0.38	mg/L			03/21/20 17:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:27	1
Arsenic	0.0029		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:11	1
Barium	0.035		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:27	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:27	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:11	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:27	1
Calcium	90		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:11	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:27	1
Cobalt	0.00032	J	0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:27	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:27	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:27	1
Molybdenum	0.0012	J	0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:27	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWA-6A

Lab Sample ID: 180-103435-3

Date Collected: 03/10/20 10:00

Matrix: Water

Date Received: 03/11/20 09:00

### Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:27	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:11	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	260		10	10	mg/L			03/12/20 12:25	1

## Client Sample ID: MGWC-12

Lab Sample ID: 180-103435-4

Date Collected: 03/10/20 10:45

Matrix: Water

Date Received: 03/11/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.1		1.0	0.32	mg/L			03/21/20 18:01	1
Fluoride	0.15		0.10	0.026	mg/L			03/21/20 18:01	1
Sulfate	7.8		1.0	0.38	mg/L			03/21/20 18:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:30	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:14	1
Barium	0.056		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:30	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:30	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:14	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:30	1
Calcium	30		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:14	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:30	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:30	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:30	1
Lithium	0.018		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:30	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:30	1
Thallium	0.00015	J B	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:30	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:12	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	170		10	10	mg/L			03/12/20 12:25	1

## Client Sample ID: MGWC-3

Lab Sample ID: 180-103435-5

Date Collected: 03/10/20 10:55

Matrix: Water

Date Received: 03/11/20 09:00

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		1.0	0.32	mg/L			03/21/20 18:48	1
Fluoride	0.058	J	0.10	0.026	mg/L			03/21/20 18:48	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: MGWC-3**

**Lab Sample ID: 180-103435-5**

Date Collected: 03/10/20 10:55

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	130		1.0	0.38	mg/L			03/21/20 18:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:32	1
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 17:16	5
Barium	0.15		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:32	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:32	1
Boron	1.3		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 17:16	5
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:32	1
Calcium	110		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 17:16	5
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:32	1
Cobalt	0.00050	J	0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:32	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:32	1
Lithium	0.014		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:32	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:32	1
Thallium	0.00016	J B	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:32	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:13	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: MGWC-7**

**Lab Sample ID: 180-103435-6**

Date Collected: 03/10/20 12:40

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		1.0	0.32	mg/L			03/21/20 20:51	1
Fluoride	0.18		0.10	0.026	mg/L			03/21/20 20:51	1
Sulfate	170		1.0	0.38	mg/L			03/21/20 20:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:35	1
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 17:19	5
Barium	0.013		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:35	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:35	1
Boron	1.4		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 17:19	5
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:35	1
Calcium	55		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 17:19	5
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:35	1
Cobalt	0.0081		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:35	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:35	1
Lithium	0.11		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:35	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:35	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:35	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Client Sample ID: MGWC-7

Date Collected: 03/10/20 12:40

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-6

Matrix: Water

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:14	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	370		10	10	mg/L			03/12/20 12:25	1

## Client Sample ID: MGWC-2

Date Collected: 03/10/20 12:00

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-7

Matrix: Water

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.32	mg/L			03/21/20 21:07	1
Fluoride	0.050	J	0.10	0.026	mg/L			03/21/20 21:07	1
Sulfate	170		1.0	0.38	mg/L			03/21/20 21:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:37	1
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 17:21	5
Barium	0.049		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:37	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:37	1
Boron	2.3		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 17:21	5
Cadmium	0.0011	J	0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:37	1
Calcium	110		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 17:21	5
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:37	1
Cobalt	0.0024	J	0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:37	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:37	1
Lithium	0.0068		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:37	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:37	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:37	1

### Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:15	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		10	10	mg/L			03/12/20 12:25	1

## Client Sample ID: MGWC-8

Date Collected: 03/10/20 13:05

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-8

Matrix: Water

### Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.32	mg/L			03/21/20 21:38	1
Fluoride	0.084	J	0.10	0.026	mg/L			03/21/20 21:38	1
Sulfate	370		5.0	1.9	mg/L			03/21/20 21:54	5

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: MGWC-8**

**Lab Sample ID: 180-103435-8**

Date Collected: 03/10/20 13:05

Matrix: Water

Date Received: 03/11/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:40	1
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 17:24	5
<b>Barium</b>	<b>0.036</b>		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:40	1
<b>Beryllium</b>	<b>0.0013</b>	<b>J B</b>	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:40	1
<b>Boron</b>	<b>4.0</b>		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 17:24	5
<b>Cadmium</b>	<b>0.0011</b>	<b>J</b>	0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:40	1
<b>Calcium</b>	<b>100</b>		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 17:24	5
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:40	1
<b>Cobalt</b>	<b>0.017</b>		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:40	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:40	1
<b>Lithium</b>	<b>0.028</b>		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:40	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:40	1
<b>Thallium</b>	<b>0.00025</b>	<b>J B</b>	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:40	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:18	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>600</b>		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: MGWC-1**

**Lab Sample ID: 180-103435-9**

Date Collected: 03/10/20 15:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>14</b>		1.0	0.32	mg/L			03/21/20 23:13	1
<b>Fluoride</b>	<b>0.086</b>	<b>J</b>	0.10	0.026	mg/L			03/21/20 23:13	1
<b>Sulfate</b>	<b>140</b>		1.0	0.38	mg/L			03/21/20 23:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0019		0.010	0.0019	mg/L		03/17/20 11:48	04/03/20 12:27	5
<b>Arsenic</b>	<b>0.0019</b>		0.0050	0.0016	mg/L		03/17/20 11:48	04/03/20 12:27	5
<b>Barium</b>	<b>0.13</b>		0.050	0.0080	mg/L		03/17/20 11:48	04/03/20 12:27	5
Beryllium	<0.00091		0.013	0.00091	mg/L		03/17/20 11:48	04/03/20 12:27	5
<b>Boron</b>	<b>1.9</b>		0.40	0.19	mg/L		03/17/20 11:48	04/03/20 12:27	5
Cadmium	<0.0011		0.013	0.0011	mg/L		03/17/20 11:48	04/03/20 12:27	5
<b>Calcium</b>	<b>120</b>		2.5	0.64	mg/L		03/17/20 11:48	04/03/20 12:27	5
Chromium	<0.0077		0.010	0.0077	mg/L		03/17/20 11:48	04/03/20 12:27	5
Cobalt	<0.00067		0.013	0.00067	mg/L		03/17/20 11:48	04/03/20 12:27	5
Lead	<0.00064		0.0050	0.00064	mg/L		03/17/20 11:48	04/03/20 12:27	5
Lithium	<0.017		0.025	0.017	mg/L		03/17/20 11:48	04/03/20 12:27	5
Molybdenum	<0.0031		0.075	0.0031	mg/L		03/17/20 11:48	04/03/20 12:27	5
Thallium	<0.00074		0.0050	0.00074	mg/L		03/17/20 11:48	04/03/20 12:27	5

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:19	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: MGWC-1**

**Lab Sample ID: 180-103435-9**

Date Collected: 03/10/20 15:00

Matrix: Water

Date Received: 03/11/20 09:00

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	450		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: AP-DUP-01**

**Lab Sample ID: 180-103435-10**

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		1.0	0.32	mg/L			03/21/20 22:10	1
Fluoride	0.059	J	0.10	0.026	mg/L			03/21/20 22:10	1
Sulfate	180		1.0	0.38	mg/L			03/21/20 22:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:50	1
Arsenic	<0.0016		0.0050	0.0016	mg/L		03/17/20 11:48	03/23/20 17:29	5
Barium	0.049		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:50	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:50	1
Boron	2.3		0.40	0.19	mg/L		03/17/20 11:48	03/23/20 17:29	5
Cadmium	0.00097	J	0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:50	1
Calcium	110		2.5	0.64	mg/L		03/17/20 11:48	03/23/20 17:29	5
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:50	1
Cobalt	0.0025		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:50	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:50	1
Lithium	0.0068		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:50	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:50	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:50	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:20	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	520		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: AP-DUP-02**

**Lab Sample ID: 180-103435-11**

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		1.0	0.32	mg/L			03/21/20 23:29	1
Fluoride	0.093	J	0.10	0.026	mg/L			03/21/20 23:29	1
Sulfate	150		1.0	0.38	mg/L			03/21/20 23:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0019		0.010	0.0019	mg/L		03/17/20 11:48	04/03/20 12:29	5
Arsenic	0.0027		0.0050	0.0016	mg/L		03/17/20 11:48	04/03/20 12:29	5
Barium	0.13		0.050	0.0080	mg/L		03/17/20 11:48	04/03/20 12:29	5

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: AP-DUP-02**

**Lab Sample ID: 180-103435-11**

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.00091		0.013	0.00091	mg/L		03/17/20 11:48	04/03/20 12:29	5
<b>Boron</b>	<b>1.9</b>		0.40	0.19	mg/L		03/17/20 11:48	04/03/20 12:29	5
Cadmium	<0.0011		0.013	0.0011	mg/L		03/17/20 11:48	04/03/20 12:29	5
<b>Calcium</b>	<b>120</b>		2.5	0.64	mg/L		03/17/20 11:48	04/03/20 12:29	5
Chromium	<0.0077		0.010	0.0077	mg/L		03/17/20 11:48	04/03/20 12:29	5
Cobalt	<0.00067		0.013	0.00067	mg/L		03/17/20 11:48	04/03/20 12:29	5
Lead	<0.00064		0.0050	0.00064	mg/L		03/17/20 11:48	04/03/20 12:29	5
Lithium	<0.017		0.025	0.017	mg/L		03/17/20 11:48	04/03/20 12:29	5
Molybdenum	<0.0031		0.075	0.0031	mg/L		03/17/20 11:48	04/03/20 12:29	5
Thallium	<0.00074		0.0050	0.00074	mg/L		03/17/20 11:48	04/03/20 12:29	5

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:21	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Dissolved Solids</b>	<b>430</b>		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-103435-12**

Date Collected: 03/10/20 12:50

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 20:03	1
Fluoride	<0.026		0.10	0.026	mg/L			03/21/20 20:03	1
<b>Sulfate</b>	<b>2.6</b>		1.0	0.38	mg/L			03/21/20 20:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:55	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:39	1
Barium	<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:55	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:55	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:39	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:55	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:39	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:55	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:55	1
<b>Lead</b>	<b>0.00024</b>	<b>J</b>	0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:55	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:55	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:55	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:55	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:22	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-103435-12**

Date Collected: 03/10/20 12:50

Matrix: Water

Date Received: 03/11/20 09:00

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: AP-FB-02**

**Lab Sample ID: 180-103435-13**

Date Collected: 03/10/20 12:55

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 20:19	1
Fluoride	<0.026		0.10	0.026	mg/L			03/21/20 20:19	1
<b>Sulfate</b>	<b>1.2</b>		1.0	0.38	mg/L			03/21/20 20:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 14:57	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:41	1
Barium	<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 14:57	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 14:57	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:41	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 14:57	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:41	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 14:57	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 14:57	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 14:57	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 14:57	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 14:57	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 14:57	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:23	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-103435-14**

Date Collected: 03/10/20 13:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 20:35	1
Fluoride	<0.026		0.10	0.026	mg/L			03/21/20 20:35	1
<b>Sulfate</b>	<b>0.72 J</b>		1.0	0.38	mg/L			03/21/20 20:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 15:00	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:44	1
Barium	<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 15:00	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-103435-14**

Date Collected: 03/10/20 13:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 6020B - Metals (ICP/MS) - Total Recoverable (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 15:00	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:44	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 15:00	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:44	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 15:00	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 15:00	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 15:00	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 15:00	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 15:00	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 15:00	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:24	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			03/12/20 12:25	1

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-103435-15**

Date Collected: 03/10/20 13:05

Matrix: Water

Date Received: 03/11/20 09:00

**Method: EPA 300.0 R2.1 - Anions, Ion Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 23:34	1
Fluoride	<0.026		0.10	0.026	mg/L			03/21/20 23:34	1
Sulfate	1.9		1.0	0.38	mg/L			03/21/20 23:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 15:02	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 17:46	1
Barium	<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 15:02	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 15:02	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 17:46	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 15:02	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 17:46	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 15:02	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 15:02	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 15:02	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 15:02	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 15:02	1
Thallium	<0.00015		0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 15:02	1

**Method: EPA 7470A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:25	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-103435-15**

**Date Collected: 03/10/20 13:05**

**Matrix: Water**

**Date Received: 03/11/20 09:00**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			03/12/20 12:25	1

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

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

**Lab Sample ID: MB 180-310538/51**  
**Matrix: Water**  
**Analysis Batch: 310538**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/20/20 22:05	1
Fluoride	<0.026		0.10	0.026	mg/L			03/20/20 22:05	1
Sulfate	<0.38		1.0	0.38	mg/L			03/20/20 22:05	1

**Lab Sample ID: MB 180-310538/6**  
**Matrix: Water**  
**Analysis Batch: 310538**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/20/20 07:29	1
Fluoride	<0.026		0.10	0.026	mg/L			03/20/20 07:29	1
Sulfate	<0.38		1.0	0.38	mg/L			03/20/20 07:29	1

**Lab Sample ID: LCS 180-310538/5**  
**Matrix: Water**  
**Analysis Batch: 310538**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.3		mg/L		101	90 - 110
Fluoride	2.50	2.57		mg/L		103	90 - 110
Sulfate	50.0	51.7		mg/L		103	90 - 110

**Lab Sample ID: LCS 180-310538/50**  
**Matrix: Water**  
**Analysis Batch: 310538**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.4		mg/L		103	90 - 110
Fluoride	2.50	2.61		mg/L		104	90 - 110
Sulfate	50.0	53.4		mg/L		107	90 - 110

**Lab Sample ID: MB 180-310688/6**  
**Matrix: Water**  
**Analysis Batch: 310688**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 15:48	1
Fluoride	<0.026		0.10	0.026	mg/L			03/21/20 15:48	1
Sulfate	<0.38		1.0	0.38	mg/L			03/21/20 15:48	1

**Lab Sample ID: LCS 180-310688/5**  
**Matrix: Water**  
**Analysis Batch: 310688**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.6		mg/L		97	90 - 110
Fluoride	2.50	2.51		mg/L		100	90 - 110
Sulfate	50.0	50.5		mg/L		101	90 - 110

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 180-310689/6**  
**Matrix: Water**  
**Analysis Batch: 310689**

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<0.32		1.0	0.32	mg/L			03/21/20 15:55	1
Fluoride	<0.026		0.10	0.026	mg/L			03/21/20 15:55	1
Sulfate	<0.38		1.0	0.38	mg/L			03/21/20 15:55	1

**Lab Sample ID: LCS 180-310689/5**  
**Matrix: Water**  
**Analysis Batch: 310689**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.38		mg/L		95	90 - 110
Sulfate	50.0	48.1		mg/L		96	90 - 110

**Lab Sample ID: 180-103435-3 MS**  
**Matrix: Water**  
**Analysis Batch: 310689**

**Client Sample ID: MGWA-6A**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.048	J	1.25	1.26		mg/L		97	80 - 120
Sulfate	2.4		25.0	26.3		mg/L		96	80 - 120

**Lab Sample ID: 180-103435-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 310689**

**Client Sample ID: MGWA-6A**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.048	J	1.25	1.22		mg/L		93	80 - 120	3	20
Sulfate	2.4		25.0	24.7		mg/L		89	80 - 120	6	20

## Method: EPA 6020B - Metals (ICP/MS)

**Lab Sample ID: MB 180-310194/1-A**  
**Matrix: Water**  
**Analysis Batch: 310808**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	<0.00038		0.0020	0.00038	mg/L		03/17/20 11:48	03/22/20 13:53	1
Barium	<0.0016		0.010	0.0016	mg/L		03/17/20 11:48	03/22/20 13:53	1
Beryllium	0.000183	J	0.0025	0.00018	mg/L		03/17/20 11:48	03/22/20 13:53	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		03/17/20 11:48	03/22/20 13:53	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/22/20 13:53	1
Chromium	<0.0015		0.0020	0.0015	mg/L		03/17/20 11:48	03/22/20 13:53	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		03/17/20 11:48	03/22/20 13:53	1
Lead	<0.00013		0.0010	0.00013	mg/L		03/17/20 11:48	03/22/20 13:53	1
Lithium	<0.0034		0.0050	0.0034	mg/L		03/17/20 11:48	03/22/20 13:53	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		03/17/20 11:48	03/22/20 13:53	1
Thallium	0.000349	J	0.0010	0.00015	mg/L		03/17/20 11:48	03/22/20 13:53	1

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-310194/1-A**  
**Matrix: Water**  
**Analysis Batch: 310945**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00031		0.0010	0.00031	mg/L		03/17/20 11:48	03/23/20 16:36	1
Boron	<0.039		0.080	0.039	mg/L		03/17/20 11:48	03/23/20 16:36	1
Calcium	<0.13		0.50	0.13	mg/L		03/17/20 11:48	03/23/20 16:36	1

**Lab Sample ID: LCS 180-310194/2-A**  
**Matrix: Water**  
**Analysis Batch: 310808**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.232		mg/L		93	80 - 120
Barium	1.00	0.960		mg/L		96	80 - 120
Beryllium	0.500	0.499		mg/L		100	80 - 120
Cadmium	0.500	0.490		mg/L		98	80 - 120
Chromium	0.500	0.472		mg/L		94	80 - 120
Cobalt	0.500	0.479		mg/L		96	80 - 120
Lead	0.500	0.472		mg/L		94	80 - 120
Lithium	0.500	0.459		mg/L		92	80 - 120
Molybdenum	0.500	0.488		mg/L		98	80 - 120
Thallium	1.00	0.992		mg/L		99	80 - 120

**Lab Sample ID: LCS 180-310194/2-A**  
**Matrix: Water**  
**Analysis Batch: 310945**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1.00	0.994		mg/L		99	80 - 120
Boron	1.25	1.13		mg/L		90	80 - 120
Calcium	25.0	25.3		mg/L		101	80 - 120

**Lab Sample ID: 180-103433-1 MS**  
**Matrix: Water**  
**Analysis Batch: 310808**

**Client Sample ID: MGWA-11**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	<0.00038		0.250	0.230		mg/L		92	75 - 125
Barium	0.094		1.00	1.08		mg/L		99	75 - 125
Beryllium	0.00018	J B	0.500	0.512		mg/L		102	75 - 125
Cadmium	<0.00022		0.500	0.513		mg/L		103	75 - 125
Chromium	<0.0015		0.500	0.495		mg/L		99	75 - 125
Cobalt	<0.00013		0.500	0.485		mg/L		97	75 - 125
Lead	<0.00013		0.500	0.484		mg/L		97	75 - 125
Lithium	0.017		0.500	0.471		mg/L		91	75 - 125
Molybdenum	0.0012	J	0.500	0.498		mg/L		99	75 - 125
Thallium	0.00036	J B	1.00	0.997		mg/L		100	75 - 125

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# QC Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Method: EPA 6020B - Metals (ICP/MS) (Continued)

**Lab Sample ID: 180-103433-1 MS**  
**Matrix: Water**  
**Analysis Batch: 310945**

**Client Sample ID: MGWA-11**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.00073	J	1.00	0.975		mg/L		97	75 - 125
Boron	<0.039		1.25	1.11		mg/L		89	75 - 125
Calcium	32		25.0	56.0		mg/L		98	75 - 125

**Lab Sample ID: 180-103433-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 310808**

**Client Sample ID: MGWA-11**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	<0.00038		0.250	0.238		mg/L		95	75 - 125	3	20
Barium	0.094		1.00	1.08		mg/L		99	75 - 125	0	20
Beryllium	0.00018	J B	0.500	0.517		mg/L		103	75 - 125	1	20
Cadmium	<0.00022		0.500	0.518		mg/L		104	75 - 125	1	20
Chromium	<0.0015		0.500	0.493		mg/L		99	75 - 125	0	20
Cobalt	<0.00013		0.500	0.493		mg/L		99	75 - 125	2	20
Lead	<0.00013		0.500	0.495		mg/L		99	75 - 125	2	20
Lithium	0.017		0.500	0.474		mg/L		92	75 - 125	1	20
Molybdenum	0.0012	J	0.500	0.505		mg/L		101	75 - 125	1	20
Thallium	0.00036	J B	1.00	1.03		mg/L		103	75 - 125	3	20

**Lab Sample ID: 180-103433-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 310945**

**Client Sample ID: MGWA-11**  
**Prep Type: Total Recoverable**  
**Prep Batch: 310194**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.00073	J	1.00	0.997		mg/L		100	75 - 125	2	20
Boron	<0.039		1.25	1.20		mg/L		96	75 - 125	7	20
Calcium	32		25.0	56.6		mg/L		100	75 - 125	1	20

## Method: EPA 7470A - Mercury (CVAA)

**Lab Sample ID: MB 180-310061/1-A**  
**Matrix: Water**  
**Analysis Batch: 310256**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310061**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/16/20 12:05	03/17/20 15:36	1

**Lab Sample ID: LCS 180-310061/2-A**  
**Matrix: Water**  
**Analysis Batch: 310256**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310061**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00210		mg/L		84	80 - 120

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

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

**Lab Sample ID: MB 180-310196/1-A**  
**Matrix: Water**  
**Analysis Batch: 310256**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310196**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00010		0.00020	0.00010	mg/L		03/17/20 11:55	03/17/20 17:00	1

**Lab Sample ID: LCS 180-310196/2-A**  
**Matrix: Water**  
**Analysis Batch: 310256**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310196**  
**%Rec. Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00260		mg/L		104	80 - 120

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

**Lab Sample ID: MB 180-309763/2**  
**Matrix: Water**  
**Analysis Batch: 309763**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			03/12/20 12:25	1

**Lab Sample ID: LCS 180-309763/1**  
**Matrix: Water**  
**Analysis Batch: 309763**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**%Rec. Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	661	674		mg/L		102	80 - 120

**Lab Sample ID: 180-103435-4 DU**  
**Matrix: Water**  
**Analysis Batch: 309763**

**Client Sample ID: MGWC-12**  
**Prep Type: Total/NA**  
**RPD Limit**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	170		175		mg/L		0.6	10

**Lab Sample ID: 180-103435-6 DU**  
**Matrix: Water**  
**Analysis Batch: 309763**

**Client Sample ID: MGWC-7**  
**Prep Type: Total/NA**  
**RPD Limit**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	370		354		mg/L		5	10

# QC Association Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## HPLC/IC

### Analysis Batch: 310538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total/NA	Water	EPA 300.0 R2.1	
180-103433-2	MGWA-10	Total/NA	Water	EPA 300.0 R2.1	
MB 180-310538/51	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-310538/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-310538/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-310538/50	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 310688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103435-15	AP-FERB-02	Total/NA	Water	EPA 300.0 R2.1	
MB 180-310688/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-310688/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

### Analysis Batch: 310689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103435-1	MGWA-5	Total/NA	Water	EPA 300.0 R2.1	
180-103435-2	MGWA-6	Total/NA	Water	EPA 300.0 R2.1	
180-103435-3	MGWA-6A	Total/NA	Water	EPA 300.0 R2.1	
180-103435-4	MGWC-12	Total/NA	Water	EPA 300.0 R2.1	
180-103435-5	MGWC-3	Total/NA	Water	EPA 300.0 R2.1	
180-103435-6	MGWC-7	Total/NA	Water	EPA 300.0 R2.1	
180-103435-7	MGWC-2	Total/NA	Water	EPA 300.0 R2.1	
180-103435-8	MGWC-8	Total/NA	Water	EPA 300.0 R2.1	
180-103435-8	MGWC-8	Total/NA	Water	EPA 300.0 R2.1	
180-103435-9	MGWC-1	Total/NA	Water	EPA 300.0 R2.1	
180-103435-10	AP-DUP-01	Total/NA	Water	EPA 300.0 R2.1	
180-103435-11	AP-DUP-02	Total/NA	Water	EPA 300.0 R2.1	
180-103435-12	AP-FB-01	Total/NA	Water	EPA 300.0 R2.1	
180-103435-13	AP-FB-02	Total/NA	Water	EPA 300.0 R2.1	
180-103435-14	AP-FERB-01	Total/NA	Water	EPA 300.0 R2.1	
MB 180-310689/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-310689/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-103435-3 MS	MGWA-6A	Total/NA	Water	EPA 300.0 R2.1	
180-103435-3 MSD	MGWA-6A	Total/NA	Water	EPA 300.0 R2.1	

## Metals

### Prep Batch: 310061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total/NA	Water	7470A	
180-103433-2	MGWA-10	Total/NA	Water	7470A	
MB 180-310061/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-310061/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Prep Batch: 310194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total Recoverable	Water	3005A	
180-103433-2	MGWA-10	Total Recoverable	Water	3005A	
180-103435-1	MGWA-5	Total Recoverable	Water	3005A	
180-103435-2	MGWA-6	Total Recoverable	Water	3005A	
180-103435-3	MGWA-6A	Total Recoverable	Water	3005A	

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# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Metals (Continued)

### Prep Batch: 310194 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103435-4	MGWC-12	Total Recoverable	Water	3005A	
180-103435-5	MGWC-3	Total Recoverable	Water	3005A	
180-103435-6	MGWC-7	Total Recoverable	Water	3005A	
180-103435-7	MGWC-2	Total Recoverable	Water	3005A	
180-103435-8	MGWC-8	Total Recoverable	Water	3005A	
180-103435-9	MGWC-1	Total Recoverable	Water	3005A	
180-103435-10	AP-DUP-01	Total Recoverable	Water	3005A	
180-103435-11	AP-DUP-02	Total Recoverable	Water	3005A	
180-103435-12	AP-FB-01	Total Recoverable	Water	3005A	
180-103435-13	AP-FB-02	Total Recoverable	Water	3005A	
180-103435-14	AP-FERB-01	Total Recoverable	Water	3005A	
180-103435-15	AP-FERB-02	Total Recoverable	Water	3005A	
MB 180-310194/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-310194/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-103433-1 MS	MGWA-11	Total Recoverable	Water	3005A	
180-103433-1 MSD	MGWA-11	Total Recoverable	Water	3005A	

### Prep Batch: 310196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103435-1	MGWA-5	Total/NA	Water	7470A	
180-103435-2	MGWA-6	Total/NA	Water	7470A	
180-103435-3	MGWA-6A	Total/NA	Water	7470A	
180-103435-4	MGWC-12	Total/NA	Water	7470A	
180-103435-5	MGWC-3	Total/NA	Water	7470A	
180-103435-6	MGWC-7	Total/NA	Water	7470A	
180-103435-7	MGWC-2	Total/NA	Water	7470A	
180-103435-8	MGWC-8	Total/NA	Water	7470A	
180-103435-9	MGWC-1	Total/NA	Water	7470A	
180-103435-10	AP-DUP-01	Total/NA	Water	7470A	
180-103435-11	AP-DUP-02	Total/NA	Water	7470A	
180-103435-12	AP-FB-01	Total/NA	Water	7470A	
180-103435-13	AP-FB-02	Total/NA	Water	7470A	
180-103435-14	AP-FERB-01	Total/NA	Water	7470A	
180-103435-15	AP-FERB-02	Total/NA	Water	7470A	
MB 180-310196/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-310196/2-A	Lab Control Sample	Total/NA	Water	7470A	

### Analysis Batch: 310256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total/NA	Water	EPA 7470A	310061
180-103433-2	MGWA-10	Total/NA	Water	EPA 7470A	310061
180-103435-1	MGWA-5	Total/NA	Water	EPA 7470A	310196
180-103435-2	MGWA-6	Total/NA	Water	EPA 7470A	310196
180-103435-3	MGWA-6A	Total/NA	Water	EPA 7470A	310196
180-103435-4	MGWC-12	Total/NA	Water	EPA 7470A	310196
180-103435-5	MGWC-3	Total/NA	Water	EPA 7470A	310196
180-103435-6	MGWC-7	Total/NA	Water	EPA 7470A	310196
180-103435-7	MGWC-2	Total/NA	Water	EPA 7470A	310196
180-103435-8	MGWC-8	Total/NA	Water	EPA 7470A	310196
180-103435-9	MGWC-1	Total/NA	Water	EPA 7470A	310196
180-103435-10	AP-DUP-01	Total/NA	Water	EPA 7470A	310196

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# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Metals (Continued)

### Analysis Batch: 310256 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103435-11	AP-DUP-02	Total/NA	Water	EPA 7470A	310196
180-103435-12	AP-FB-01	Total/NA	Water	EPA 7470A	310196
180-103435-13	AP-FB-02	Total/NA	Water	EPA 7470A	310196
180-103435-14	AP-FERB-01	Total/NA	Water	EPA 7470A	310196
180-103435-15	AP-FERB-02	Total/NA	Water	EPA 7470A	310196
MB 180-310061/1-A	Method Blank	Total/NA	Water	EPA 7470A	310061
MB 180-310196/1-A	Method Blank	Total/NA	Water	EPA 7470A	310196
LCS 180-310061/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	310061
LCS 180-310196/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	310196

### Analysis Batch: 310808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total Recoverable	Water	EPA 6020B	310194
180-103433-2	MGWA-10	Total Recoverable	Water	EPA 6020B	310194
180-103435-1	MGWA-5	Total Recoverable	Water	EPA 6020B	310194
180-103435-2	MGWA-6	Total Recoverable	Water	EPA 6020B	310194
180-103435-3	MGWA-6A	Total Recoverable	Water	EPA 6020B	310194
180-103435-4	MGWC-12	Total Recoverable	Water	EPA 6020B	310194
180-103435-5	MGWC-3	Total Recoverable	Water	EPA 6020B	310194
180-103435-6	MGWC-7	Total Recoverable	Water	EPA 6020B	310194
180-103435-7	MGWC-2	Total Recoverable	Water	EPA 6020B	310194
180-103435-8	MGWC-8	Total Recoverable	Water	EPA 6020B	310194
180-103435-10	AP-DUP-01	Total Recoverable	Water	EPA 6020B	310194
180-103435-12	AP-FB-01	Total Recoverable	Water	EPA 6020B	310194
180-103435-13	AP-FB-02	Total Recoverable	Water	EPA 6020B	310194
180-103435-14	AP-FERB-01	Total Recoverable	Water	EPA 6020B	310194
180-103435-15	AP-FERB-02	Total Recoverable	Water	EPA 6020B	310194
MB 180-310194/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	310194
LCS 180-310194/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	310194
180-103433-1 MS	MGWA-11	Total Recoverable	Water	EPA 6020B	310194
180-103433-1 MSD	MGWA-11	Total Recoverable	Water	EPA 6020B	310194

### Analysis Batch: 310945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total Recoverable	Water	EPA 6020B	310194
180-103433-2	MGWA-10	Total Recoverable	Water	EPA 6020B	310194
180-103435-1	MGWA-5	Total Recoverable	Water	EPA 6020B	310194
180-103435-2	MGWA-6	Total Recoverable	Water	EPA 6020B	310194
180-103435-3	MGWA-6A	Total Recoverable	Water	EPA 6020B	310194
180-103435-4	MGWC-12	Total Recoverable	Water	EPA 6020B	310194
180-103435-5	MGWC-3	Total Recoverable	Water	EPA 6020B	310194
180-103435-6	MGWC-7	Total Recoverable	Water	EPA 6020B	310194
180-103435-7	MGWC-2	Total Recoverable	Water	EPA 6020B	310194
180-103435-8	MGWC-8	Total Recoverable	Water	EPA 6020B	310194
180-103435-10	AP-DUP-01	Total Recoverable	Water	EPA 6020B	310194
180-103435-12	AP-FB-01	Total Recoverable	Water	EPA 6020B	310194
180-103435-13	AP-FB-02	Total Recoverable	Water	EPA 6020B	310194
180-103435-14	AP-FERB-01	Total Recoverable	Water	EPA 6020B	310194
180-103435-15	AP-FERB-02	Total Recoverable	Water	EPA 6020B	310194
MB 180-310194/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	310194
LCS 180-310194/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	310194

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# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-1

## Metals (Continued)

### Analysis Batch: 310945 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1 MS	MGWA-11	Total Recoverable	Water	EPA 6020B	310194
180-103433-1 MSD	MGWA-11	Total Recoverable	Water	EPA 6020B	310194

### Analysis Batch: 312060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103435-9	MGWC-1	Total Recoverable	Water	EPA 6020B	310194
180-103435-11	AP-DUP-02	Total Recoverable	Water	EPA 6020B	310194

## General Chemistry

### Analysis Batch: 309763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total/NA	Water	SM 2540C	
180-103433-2	MGWA-10	Total/NA	Water	SM 2540C	
180-103435-1	MGWA-5	Total/NA	Water	SM 2540C	
180-103435-2	MGWA-6	Total/NA	Water	SM 2540C	
180-103435-3	MGWA-6A	Total/NA	Water	SM 2540C	
180-103435-4	MGWC-12	Total/NA	Water	SM 2540C	
180-103435-5	MGWC-3	Total/NA	Water	SM 2540C	
180-103435-6	MGWC-7	Total/NA	Water	SM 2540C	
180-103435-7	MGWC-2	Total/NA	Water	SM 2540C	
180-103435-8	MGWC-8	Total/NA	Water	SM 2540C	
180-103435-9	MGWC-1	Total/NA	Water	SM 2540C	
180-103435-10	AP-DUP-01	Total/NA	Water	SM 2540C	
180-103435-11	AP-DUP-02	Total/NA	Water	SM 2540C	
180-103435-12	AP-FB-01	Total/NA	Water	SM 2540C	
180-103435-13	AP-FB-02	Total/NA	Water	SM 2540C	
180-103435-14	AP-FERB-01	Total/NA	Water	SM 2540C	
180-103435-15	AP-FERB-02	Total/NA	Water	SM 2540C	
MB 180-309763/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-309763/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-103435-4 DU	MGWC-12	Total/NA	Water	SM 2540C	
180-103435-6 DU	MGWC-7	Total/NA	Water	SM 2540C	



# Chain of Custody Record

<b>Client Information</b>		Sampler: Lab PM		Carrier Tracking No(s):	
Client Contact: <b>Lauren Petty</b>		Bortot, Veronica		COC No: 180-54264-10410.1	
Company: Southern Company Services, Inc.		E-Mail: veronica.bortot@testamericainc.com		Page: 1 of 1	
Address: 3535 Colonnade Parkway		Phone: 404-592-0094		Job #:	
City: Birmingham		TAT Requested (days): <b>Standard</b>		Preservation Codes:	
State, Zip: GA, 30309		PO #: SCS10347656		A - HCL 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)	
Phone: 205-992-5417(Tel)		WO #:		Other:	
Email: Impetty@southernco.com		Project #: 18019956		Total Number of containers	
Project Name: CCR - Plant McIntosh Ash Pond 1		SSOW#:		Special Instructions/Note:	
Site: Georgia				Analyze App III, Rad 226 and App IV except <del>NOT</del> Selenium, <del>App III</del>	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020 - B, Ca : plus As, B, Cd, Co, Li (detected App IV elements)	2540C, Calcd, 300, Chloride Sulfate, Fluoride, pH TDS
MGWA-1	3/9/20	1700	G	Water	W	N	X	X
MGWA-10	3/9/20	1705	G	Water	W	N	X	X
				Water				
				Water				

<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	
Deliverable Requested: I, II, III, IV, Other (specify)	
Empty Kit Relinquished by:	Date:
Relinquished by: <b>Lumpkin</b>	Date/Time: <b>3/9/20 1830</b>
Relinquished by:	Date/Time:
Relinquished by:	Date/Time:
Custody Seals Intact:	Custody Seal No.:
Δ Yes Δ No	

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Special Instructions/QC Requirements:
180-103433 Chain of Custody

Received by: <b>Jessie Watson</b>	Date/Time: <b>3-11-20</b>	Company: <b>EAH</b>
Received by:	Date/Time: <b>9:00</b>	Company:
Received by:	Date/Time:	Company:
Cooler Temperature(s) °C and Other Remarks:		





**Chain of Custody Record**

<b>Client Information</b>		Lab PM: Bortol, Veronica		Carrier Tracking No(s):	
Client Contact: Lauren Petty		E-Mail: veronica.bortol@testamericainc.com		COC No:	
Company: Southern Company		Address: PO BOX 2641 GSC8		Page: 2 of 2	
City: Birmingham		State, Zip: AL, 35291		Job #:	
Phone: 205-992-5417(Tel)		PO #: SCS10347656		Preservation Codes:	
Email: Impetty@southernco.com		WO #:		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)	
Project Name: CCR - Plant McIntosh		Project #: <del>4885956</del> 18019954		Other:	
Site: Plant McIntosh		Due Date Requested:		Total Number of Containers	
TAT Requested (days): Rush		Sample Date		Special Instructions/Note:	
Sample Identification		Sample Time		Perform MS/MSD (Yes or No)	
AP-FB-01		3/10/20 1250		M	
AP-FB-02		1255		N	
AP-FERB-01		1300		M	
AP-FERB-02		1305		N	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
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AP-FB-01		3/10/20 1250		X	
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AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 1250		X	
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AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
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AP-FERB-01		1300		X	
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AP-FB-01		3/10/20 1250		X	
AP-FB-02		1255		X	
AP-FERB-01		1300		X	
AP-FERB-02		1305		X	
AP-FB-01		3/10/20 125			



<b>Client Information</b> Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSC8 Birmingham State, Zip AL, 35291 Phone: 205-992-5417 (Tel) Email: Impetty@southernco.com Project Name: CCR - Plant McIntosh Ash Pond 1 Site: Georgia		Lab PM: Bortot, Veronica E-Mail: veronica.bortot@testamericainc.com		Carrier Tracking No(s): COC No: 180-57786-11316.2 Page: 1 of 2 Job #:						
Due Date Requested: TAT Requested (days): PO #: SCS10382606 WO #: Project #: 18019956 SSOW#:		<b>Analysis Requested</b>								
Sample Identification MGWA-5 MGWA-6 MGWA-6A MGWC-12 MGWC-3 MGWC-7 MGWC-2 MGWC-8 MGWC-1 AP-DUP-01 AP-DUP-02		Sample Date 3/10/20 1115 1000 1045 1055 1240 1200 1305 1500 - -	Sample Time 0945 1115 1000 1045 1055 1240 1200 1305 1500 - -	Sample Type (C=Comp, G=grab) 6 - - - - - - - - - -	Matrix (W=water, S=solid, O=wash/oil, BT=tissue, A=air) Water Water Water Water Water Water Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) N N N N N N N N N N N N N N	D X X X X X X X X X X X X X X	N N N N N N N N N N N N N N N	Total Number of Containers 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Special Instructions/Note: Analyze App III Radium 226, 228 and App IV EXCEPT Selenium 180-103435 Chain of Custody
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months								
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:								
Empty Kit Relinquished by:		Method of Shipment:								
Relinquished by: <i>Anderson</i>		Received by: <i>Melanie Watson</i>								
Relinquished by:		Received by:								
Relinquished by:		Received by:								
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:								



**Chain of Custody Record**

<b>Client Information</b>		Lab PM: Bortot, Veronica		Carrier Tracking No(s):	
Client Contact: Lauren Petty		Phone: 4045920094		E-Mail: veronica.bortot@testamericainc.com	
Company: Southern Company		Address: PO BOX 2641 GSC8		City: Birmingham	
State, Zip: AL, 35291		Phone: 205-992-5417(Tel)		Email: Impetty@southernco.com	
Project Name: CCR - Plant McIntosh		Site: Ash Pond		Project #: 44845050-18019954	
Site: Plant McIntosh		SSOW#:		WO #:	
Due Date Requested:		TAT Requested (days):		Rush	
PO #:		SCS10347656		WO #:	
Sample Identification		Sample Date		Sample Time	
AP-FB-01	3/16/20	1250	G	W	
AP-FB-02		1255			
AP-FERB-01		1300			
AP-FERB-02		1305			
Sample Type (C=comp, G=grab)		Sample Time		Matrix (W=water, S=solid, O=water/oil, BT=tissue, A=air)	
935-PA226, 9320-PA228		X		X	
6020-B, Ca + dehydrated APP IV		X		X	
2540C-Calc, 300-cl, 3, 1, PH, 7, D S		X		X	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
M		M		3	
M		M		3	
M		M		3	
M		M		3	
Special Instructions/Note:		Analyze App III		Radium 226, 228	
		App IV, EXCEPT		Selenium	
Possible Hazard Identification		Poison B		Skin Irritant	
Deliverable Requested: I, II, III, IV, Other (specify)		Flammable		Flammable	
Empty Kit Relinquished by:		Date:		Time:	
Relinquished by: [Signature]		3/10/20		1920	
Relinquished by:		Date/Time:		Company: GEL	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact:		Custody Seal No.:		Method of Shipment:	
Δ Yes Δ No				Received by: [Signature]	
				Date/Time: 5-1-20	
				Date/Time: 9:00	
				Date/Time:	
				Company: [Signature]	
				Company:	
				Company:	
				Cooler Temperature(s) °C and Other Remarks:	



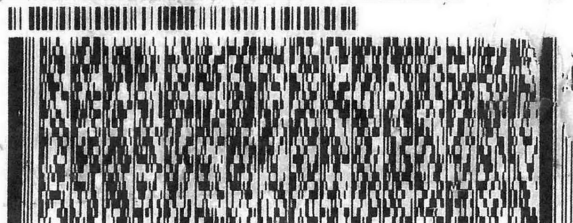


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SA  
 EUROFIN  
 301 ALPHA DR.  
 RIDC PARK  
 PITTSBURGH PA 15238

(412) 963-7068  
 REF: SOUTHERN



WED - 11 MAR 3:00P  
 STANDARD OVERNIGHT

TRK# 1516 9323 1447  
 0201

**NA AGCA**

15238  
 PA-US PIT

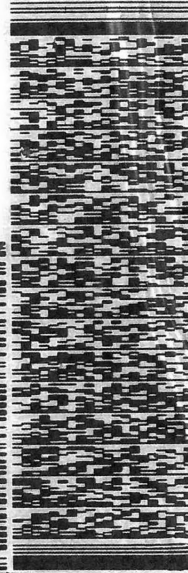
Uncorrected temp 3.7 °C  
 Thermometer ID 17  
 CF Ø Initials JS  
 PT-WI-SR-001 effective 11/8/18

SHIP DATE: 10MAR20  
ACTWGT: 32.80 LB  
CAD: 6994919/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

IGIN ID: SAVA (412) 963-2435  
RONICA BORTOT  
E CHEERS 5 BEFORE BILL  
1 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238  
REF: (412) 963-8222  
P.O. DEPT:



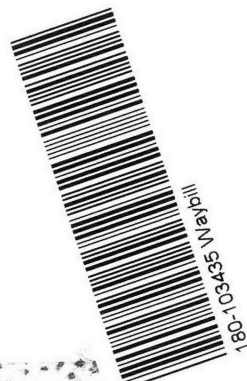
WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

3 of 5  
MPS# 3910 1405 5900  
Mstr# 3910 1405 5885

0201

XH AGCA

15238  
PA-US  
PIT



Uncorrected temp  
Thermometer ID  
CF 0 Initials JS

PT-WI-SR-001 effective 11/8/18

SHIP DATE: 10MAR20  
ACTWGT: 32.80 LB  
CAD: 6994919/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

ORIGIN ID: SAVA (412)  
VERONICA BORTOT  
SEE CHEERS 5 BEFORE BILL  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH  
(412) 963-8222  
P.O. DEPT:



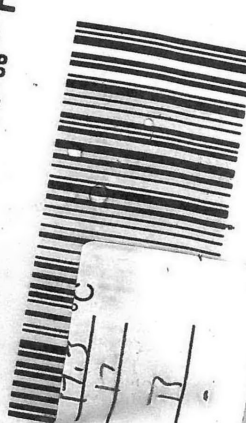
WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

4 of 5  
MPS# 3910 1405 5  
Mstr# 3910 1405 58E

0201

XH AGI

PA-US



Uncorrected temp  
Thermometer ID  
CF 0 M J Initials JS

PT-WI-SR-001 effective 11/8/18





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14835469898  
 ETP: 13  
 PU: SP: 100: V  
**110-1076**  
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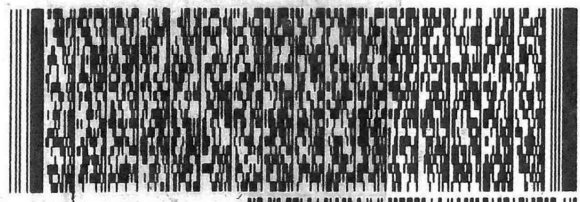


PT-WI-SR-001 effective 11/8/18  
 CF  
 Initials JS  
 Thermometer ID 3.4  
 Uncorrected temp 17

PA-US  
**15238**  
**PIT**

**XH AGCA**

MPS# **3910 1405 5896**  
 Mat# **3910 1405 5885**  
**WED - 11 MAR 10:30A**  
**PRIORITY OVERNIGHT**  
 2 of 5



12010200113011v

**PITTSBURGH PA 15238**

to **VERONICA BORTOT**  
**TEST AMERICA**  
**301 ALPHA DR**

ORIGIN ID: SAVVA (412) 963-2435  
 VERONICA BORTOT  
 SEE CHECKS 5 BEFORE BILL  
 301 ALPHA DR  
 PITTSBURGH, PA 15238  
 UNITED STATES US  
 SHIP DATE: 10MAR20  
 ACTWGT: 44.70 LB  
 CAD: 6984919/SSFE2021  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY

Part 15238 XP 01/21  
 55A12/61E07E48:2951 # JNF



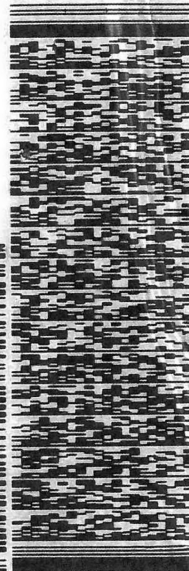
Part # 156299469407E46

SHIP DATE: 10MAR20  
ACTWT: 32.80 LB  
CAD: 6994619/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

ORIGIN ID: SAVA (412) 963-2435  
VERONICA BORTOT  
SEE CHECKS 5 BEFORE BILL  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238  
REF: (412) 863-8222  
SHIP DATE: 10MAR20  
ACTWT: 32.80 LB  
CAD: 6994619/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

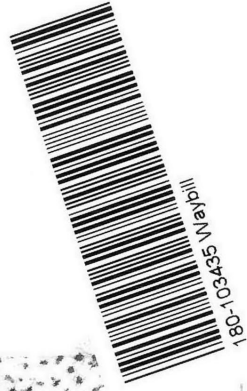


WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

MPS# 3910 1405 5900  
Mstr# 3910 1405 5885

XH AGCA

15238  
PA-US  
PIT



Uncorrected temp  
Thermometer ID  
CF 0 Initials B

PT-WI-SR-001 effective 11/8/18

ORIGIN ID: SAVA (412)  
VERONICA BORTOT  
SEE CHECKS 5 BEFORE BILL  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH  
(412) 863-8222

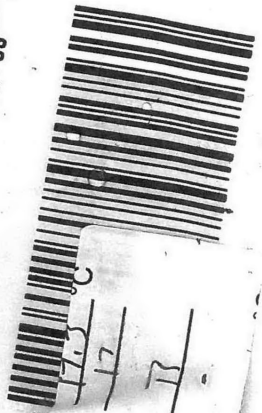


WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

MPS# 3910 1405 5  
Mstr# 3910 1405 588

XH AGI

PA-US



Uncorrected temp  
Thermometer ID  
CF 0 M Jc Initials B

PT-WI-SR-001 effective 11/8/18

- 1
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- 11
- 12
- 13

- 1
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14834698398 PD:SP:100.Y  
 EFP: 13  
**110-1076**  
 313265215-81  
 31 MAR 10 31 12 17  
 31 MAR 10 31 12 17

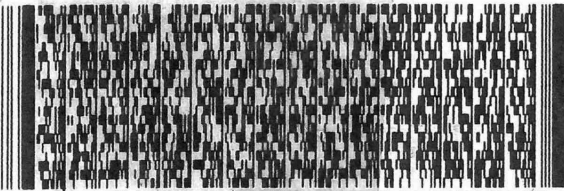


PT-WI-SR-001 effective 11/8/18  
 CF. 0  
 Initials JS  
 Thermometer ID 317  
 Uncorrected temp

PA-US  
 15238  
 PIT

**XH AGCA**

MPS# 3910 1405 5896  
 Met# 3910 1405 5886  
 0263  
 0201  
 WED - 11 MAR 10:30A  
 PRIORITY OVERNIGHT



PITTSBURGH PA 15238

TO VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

ORIGIN ID:SAVA (412) 963-2435  
 VERONICA BORTOT  
 SEE CHECKS 5 BEFORE BILL  
 301 ALPHA DR  
 PITTSBURGH, PA 15238  
 UNITED STATES US  
 SHIP DATE: 10MAR20  
 ACTWGT: 44.70 LB  
 CAD: 6994919/SSFE2021  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY

Part # 15625465832/5610/FE4646



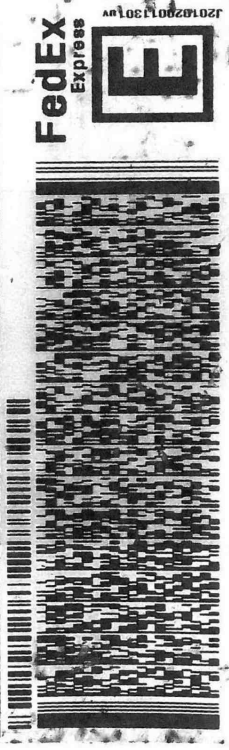
VERONICA BORTOT  
 SEE CHEERS 5 BEFORE BILL  
 301 ALPHA DR PA 15238  
 PITTSBURGH, PA  
 UNITED STATES US

SHIP DATE: 10MAR20  
 ACTWT: 42.90 LB  
 CAD: 6994919/55FE2021  
 DIMS: 20x13x15 IN  
 BILL THIRD PARTY

TO VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

PITTSBURGH PA 15238

REF: (412) 983-6222



WED - 11 MAR 10:30A  
 PRIORITY OVERNIGHT

5 of 5  
 MPS# 3910 1405 5922  
 Metr# 3910 1405 5885

XH AGCA

15238  
 PA-US PIT

Uncorrected temp 18.4 °C  
 Thermometer ID 17  
 CF 0 Initials MJC JB  
 PT-WI-SR-001 effective 11/8/18

ORIGIN ID: SAVA (412) 963-2435  
 VERONICA BORTOT  
 SEE CHEERS 5 BEFORE BILL  
 301 ALPHA DR PA 15238  
 PITTSBURGH, PA  
 UNITED STATES US

TO VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

PITTSBURGH PA 15238

REF: (412) 983-6222



WED - 11 MAR 10:30A  
 PRIORITY OVERNIGHT

1 of 5  
 TRM# 3910 1405  
 0201  
 ## MASTER ##

XH AC

15238  
 PA-US PIT

Uncorrected ten  
 Thermometer IC  
 CF 0 Initials II  
 PT-WI-SR-001 effective 11/8/18



## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103433-1

**Login Number: 103433**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103433-1

**Login Number: 103435**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	ONE WITH RADS NOT ON ICE
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh  
301 Alpha Drive  
RIDC Park  
Pittsburgh, PA 15238  
Tel: (412)963-7058

Laboratory Job ID: 180-103433-2

Client Project/Site: CCR - Plant McIntosh Ash Pond 1

**For:**

Southern Company  
PO BOX 2641 GSC8  
Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



*Authorized for release by:*

*4/15/2020 2:59:49 PM*

Veronica Bortot, Senior Project Manager  
(412)963-2435

[veronica.bortot@testamericainc.com](mailto:veronica.bortot@testamericainc.com)

Designee for

Shali Brown, Project Manager II  
(615)301-5031

[shali.brown@testamericainc.com](mailto:shali.brown@testamericainc.com)

### LINKS

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results through

TotalAccess

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*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.*

PA Lab ID: 02-00416

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# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Job ID: 180-103433-2**

**Laboratory: Eurofins TestAmerica, Pittsburgh**

## Narrative

### Job Narrative 180-103433-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/11/2020 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.4° C, 3.7° C, 4.9° C and 17.3° C.

#### Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): AP-DUP-01 (180-103435-10). The container labels list MGWC-2, while the COC lists AP-DUP-01.

#### RAD

Method 9315: Radium-226 Prep Batch 160-464489

The following samples have a barium carrier recovery above the 110% QC limit. Affected samples had a barium correction applied, however, there is significant concentrations of salt-like compounds (i.e. calcium, magnesium, sodium, and strontium) that can interfere with a barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported.

MGWA-10 (180-103433-2)

Methods 903.0, 9315: Ra-226 Prep Batch 160-464489

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

MGWA-11 (180-103433-1), MGWA-10 (180-103433-2), MGWA-5 (180-103435-1), MGWA-6 (180-103435-2), MGWA-6A (180-103435-3), MGWC-12 (180-103435-4), MGWC-3 (180-103435-5), MGWC-7 (180-103435-6), MGWC-2 (180-103435-7), MGWC-8 (180-103435-8), MGWC-1 (180-103435-9), AP-DUP-01 (180-103435-10), AP-DUP-02 (180-103435-11), AP-FB-01 (180-103435-12), AP-FB-02 (180-103435-13), AP-FERB-01 (180-103435-14), AP-FERB-02 (180-103435-15), (LCS 160-464489/1-A), (LCSD 160-464489/2-A) and (MB 160-464489/23-A)

Method 9320: Radium-228 Prep Batch 160-464492

The following samples have a barium carrier recovery above the 110% QC limit. Affected samples had a barium correction applied, however, there is significant concentrations of salt-like compounds (i.e. calcium, magnesium, sodium, and strontium) that can interfere with a barium sulfate recovery. The LCS (laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported.

MGWA-10 (180-103433-2)

Methods 904.0, 9320: Ra-228 Prep Batch 160-464492

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

# Case Narrative

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

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## Job ID: 180-103433-2 (Continued)

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### Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

MGWA-11 (180-103433-1), MGWA-10 (180-103433-2), MGWA-5 (180-103435-1), MGWA-6 (180-103435-2), MGWA-6A (180-103435-3), MGWC-12 (180-103435-4), MGWC-3 (180-103435-5), MGWC-7 (180-103435-6), MGWC-2 (180-103435-7), MGWC-8 (180-103435-8), MGWC-1 (180-103435-9), AP-DUP-01 (180-103435-10), AP-DUP-02 (180-103435-11), AP-FB-01 (180-103435-12), AP-FB-02 (180-103435-13), AP-FERB-01 (180-103435-14), AP-FERB-02 (180-103435-15), (LCS 160-464492/1-A), (LCSD 160-464492/2-A) and (MB 160-464492/23-A)

Method PrecSep\_0: Radium-228 Prep Batch 160-464492:

The barium carrier recovery is outside the upper control limit (110%) for the following samples: MGWA-11 (180-103433-1), MGWA-10 (180-103433-2) and AP-FERB-01 (180-103435-14). The samples were re-heated to dry on a hot plate at high temp for one hour to ensure very little water molecules could contribute to a high bias of the carrier recovery. The QC samples associated with the batch have acceptable carrier recovery indicating the possibility of matrix interference.

A native barium result was applied to the sample (180-103433-1) which brought the recovery below the 110% limit. The barium recovery is now 89%.

CJQ 4/13/20 7:11

Method PrecSep-21: Radium-226 Prep Batch 160-464489:

The barium carrier recovery is outside the upper control limit (110%) for the following samples: MGWA-11 (180-103433-1), MGWA-10 (180-103433-2) and AP-FERB-01 (180-103435-14). The samples were re-heated to dry on a hot plate at high temp for one hour to ensure very little water molecules could contribute to a high bias of the carrier recovery. The QC samples associated with the batch have acceptable carrier recovery indicating the possibility of matrix interference.

A native barium result was applied to the sample (180-103433-1) which brought the recovery below the 110% limit. The barium recovery is now 88%.

CJQ 4/13/20 07:04

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Definitions/Glossary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-20
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20 *
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-20

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



# Accreditation/Certification Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-20
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-20
Iowa	State	373	09-17-20
Kansas	NELAP	E-10236	10-31-20
Kentucky (DW)	State	KY90125	12-31-20
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-20
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
West Virginia DEP	State	381	10-31-20



# Sample Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-103433-1	MGWA-11	Water	03/09/20 17:00	03/11/20 09:00	
180-103433-2	MGWA-10	Water	03/09/20 17:05	03/11/20 09:00	
180-103435-1	MGWA-5	Water	03/10/20 09:45	03/11/20 09:00	
180-103435-2	MGWA-6	Water	03/10/20 11:15	03/11/20 09:00	
180-103435-3	MGWA-6A	Water	03/10/20 10:00	03/11/20 09:00	
180-103435-4	MGWC-12	Water	03/10/20 10:45	03/11/20 09:00	
180-103435-5	MGWC-3	Water	03/10/20 10:55	03/11/20 09:00	
180-103435-6	MGWC-7	Water	03/10/20 12:40	03/11/20 09:00	
180-103435-7	MGWC-2	Water	03/10/20 12:00	03/11/20 09:00	
180-103435-8	MGWC-8	Water	03/10/20 13:05	03/11/20 09:00	
180-103435-9	MGWC-1	Water	03/10/20 15:00	03/11/20 09:00	
180-103435-10	AP-DUP-01	Water	03/10/20 00:00	03/11/20 09:00	
180-103435-11	AP-DUP-02	Water	03/10/20 00:00	03/11/20 09:00	
180-103435-12	AP-FB-01	Water	03/10/20 12:50	03/11/20 09:00	
180-103435-13	AP-FB-02	Water	03/10/20 12:55	03/11/20 09:00	
180-103435-14	AP-FERB-01	Water	03/10/20 13:00	03/11/20 09:00	
180-103435-15	AP-FERB-02	Water	03/10/20 13:05	03/11/20 09:00	

# Method Summary

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

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

#### Protocol References:

None = None

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

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

#### Laboratory References:

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



# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWA-11

## Lab Sample ID: 180-103433-1

Date Collected: 03/09/20 17:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			99915 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	467244	04/08/20 19:01	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			99915 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-10

## Lab Sample ID: 180-103433-2

Date Collected: 03/09/20 17:05

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.53 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467299	04/09/20 05:45	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.53 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-5

## Lab Sample ID: 180-103435-1

Date Collected: 03/10/20 09:45

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.46 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:55	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.46 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467264	04/08/20 12:32	CJQ	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6

## Lab Sample ID: 180-103435-2

Date Collected: 03/10/20 11:15

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.08 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:55	CJQ	TAL SL
Instrument ID: GFPCRED										

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# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWA-6

## Lab Sample ID: 180-103435-2

Date Collected: 03/10/20 11:15

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.08 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467264	04/08/20 12:32	CJQ	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWA-6A

## Lab Sample ID: 180-103435-3

Date Collected: 03/10/20 10:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.92 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:55	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.92 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467264	04/08/20 12:32	CJQ	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-12

## Lab Sample ID: 180-103435-4

Date Collected: 03/10/20 10:45

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.11 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:55	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.11 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467264	04/08/20 12:32	CJQ	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-3

## Lab Sample ID: 180-103435-5

Date Collected: 03/10/20 10:55

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.00 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:55	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.00 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467264	04/08/20 12:32	CJQ	TAL SL
Instrument ID: GFPCPURPLE										

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# Lab Chronicle

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWC-3

Lab Sample ID: 180-103435-5

Date Collected: 03/10/20 10:55

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL

## Client Sample ID: MGWC-7

Lab Sample ID: 180-103435-6

Date Collected: 03/10/20 12:40

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.77 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:58	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.77 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-2

Lab Sample ID: 180-103435-7

Date Collected: 03/10/20 12:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.32 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:58	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.32 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: MGWC-8

Lab Sample ID: 180-103435-8

Date Collected: 03/10/20 13:05

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.81 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:58	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.81 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWC-1

Lab Sample ID: 180-103435-9

Date Collected: 03/10/20 15:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.41 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:58	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.41 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-DUP-01

Lab Sample ID: 180-103435-10

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.53 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:59	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.53 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-DUP-02

Lab Sample ID: 180-103435-11

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.35 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:59	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.35 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-FB-01

Lab Sample ID: 180-103435-12

Date Collected: 03/10/20 12:50

Matrix: Water

Date Received: 03/11/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.17 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 18:59	CJQ	TAL SL
Instrument ID: GFPCRED										

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: AP-FB-01

Date Collected: 03/10/20 12:50

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.17 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:37	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-FB-02

Date Collected: 03/10/20 12:55

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.43 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 19:00	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.43 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-FERB-01

Date Collected: 03/10/20 13:00

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.58 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 19:00	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.58 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL
Instrument ID: NOEQUIP										

## Client Sample ID: AP-FERB-02

Date Collected: 03/10/20 13:05

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.81 mL	1.0 g	464489	03/17/20 07:35	MNH	TAL SL
Total/NA	Analysis	9315		1			467244	04/08/20 19:00	CJQ	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.81 mL	1.0 g	464492	03/17/20 07:51	MNH	TAL SL
Total/NA	Analysis	9320		1			467126	04/08/20 12:38	KLS	TAL SL
Instrument ID: GFPCBLUE										

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# Lab Chronicle

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-103435-15**

**Date Collected: 03/10/20 13:05**

**Matrix: Water**

**Date Received: 03/11/20 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			467506	04/13/20 07:29	SMP	TAL SL

**Laboratory References:**

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

**Analyst References:**

Lab: TAL SL

Batch Type: Prep

MNH = Molly Howard

Batch Type: Analysis

CJQ = Caleb Quinn

KLS = Kody Saulters

SMP = Siobhan Perry

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: MGWA-11**

**Lab Sample ID: 180-103433-1**

Date Collected: 03/09/20 17:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00268	U	0.00222	0.00223	1.00	0.00327	pCi/L	03/17/20 07:35	04/08/20 19:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					03/17/20 07:35	04/08/20 19:01	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00215	U	0.00277	0.00278	1.00	0.00461	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.9		40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	83.0		40 - 110					03/17/20 07:51	04/08/20 12:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.00483		0.0035498	0.0035639	2.00	0.00461	pCi/L		04/13/20 07:29	1

**Client Sample ID: MGWA-10**

**Lab Sample ID: 180-103433-2**

Date Collected: 03/09/20 17:05

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.279		0.159	0.161	1.00	0.183	pCi/L	03/17/20 07:35	04/09/20 05:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	112	X	40 - 110					03/17/20 07:35	04/09/20 05:45	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.482		0.236	0.240	1.00	0.340	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	112	X	40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	84.9		40 - 110					03/17/20 07:51	04/08/20 12:38	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWA-10

Date Collected: 03/09/20 17:05

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103433-2

Matrix: Water

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.761		0.285	0.289	2.00	0.340	pCi/L		04/13/20 07:29	1

## Client Sample ID: MGWA-5

Date Collected: 03/10/20 09:45

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-1

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.121	U	0.149	0.149	1.00	0.244	pCi/L	03/17/20 07:35	04/08/20 18:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.2		40 - 110					03/17/20 07:35	04/08/20 18:55	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0613	U	0.229	0.229	1.00	0.423	pCi/L	03/17/20 07:51	04/08/20 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.2		40 - 110					03/17/20 07:51	04/08/20 12:32	1
Y Carrier	79.3		40 - 110					03/17/20 07:51	04/08/20 12:32	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0594	U	0.273	0.273	2.00	0.423	pCi/L		04/13/20 07:29	1

## Client Sample ID: MGWA-6

Date Collected: 03/10/20 11:15

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-2

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.403		0.252	0.255	1.00	0.350	pCi/L	03/17/20 07:35	04/08/20 18:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					03/17/20 07:35	04/08/20 18:55	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: MGWA-6**

**Lab Sample ID: 180-103435-2**

Date Collected: 03/10/20 11:15

Matrix: Water

Date Received: 03/11/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00671	U	0.244	0.244	1.00	0.434	pCi/L	03/17/20 07:51	04/08/20 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					03/17/20 07:51	04/08/20 12:32	1
Y Carrier	83.4		40 - 110					03/17/20 07:51	04/08/20 12:32	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.410	U	0.351	0.353	2.00	0.434	pCi/L		04/13/20 07:29	1

**Client Sample ID: MGWA-6A**

**Lab Sample ID: 180-103435-3**

Date Collected: 03/10/20 10:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.436		0.222	0.226	1.00	0.255	pCi/L	03/17/20 07:35	04/08/20 18:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.0		40 - 110					03/17/20 07:35	04/08/20 18:55	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0921	U	0.217	0.217	1.00	0.376	pCi/L	03/17/20 07:51	04/08/20 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.0		40 - 110					03/17/20 07:51	04/08/20 12:32	1
Y Carrier	83.0		40 - 110					03/17/20 07:51	04/08/20 12:32	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.528		0.310	0.313	2.00	0.376	pCi/L		04/13/20 07:29	1

Eurofins TestAmerica, Pittsburgh

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: MGWC-12**

**Lab Sample ID: 180-103435-4**

Date Collected: 03/10/20 10:45

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0642	U	0.142	0.142	1.00	0.263	pCi/L	03/17/20 07:35	04/08/20 18:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.7		40 - 110					03/17/20 07:35	04/08/20 18:55	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.276	U	0.244	0.245	1.00	0.391	pCi/L	03/17/20 07:51	04/08/20 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.7		40 - 110					03/17/20 07:51	04/08/20 12:32	1
Y Carrier	85.6		40 - 110					03/17/20 07:51	04/08/20 12:32	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.340	U	0.282	0.283	2.00	0.391	pCi/L		04/13/20 07:29	1

**Client Sample ID: MGWC-3**

**Lab Sample ID: 180-103435-5**

Date Collected: 03/10/20 10:55

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.865		0.321	0.331	1.00	0.358	pCi/L	03/17/20 07:35	04/08/20 18:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					03/17/20 07:35	04/08/20 18:55	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.459		0.280	0.284	1.00	0.430	pCi/L	03/17/20 07:51	04/08/20 12:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					03/17/20 07:51	04/08/20 12:32	1
Y Carrier	86.7		40 - 110					03/17/20 07:51	04/08/20 12:32	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWC-3

Date Collected: 03/10/20 10:55

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-5

Matrix: Water

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.32		0.426	0.436	2.00	0.430	pCi/L		04/13/20 07:29	1

## Client Sample ID: MGWC-7

Date Collected: 03/10/20 12:40

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-6

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.796		0.272	0.281	1.00	0.228	pCi/L	03/17/20 07:35	04/08/20 18:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					03/17/20 07:35	04/08/20 18:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.107	U	0.242	0.242	1.00	0.416	pCi/L	03/17/20 07:51	04/08/20 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	78.9		40 - 110					03/17/20 07:51	04/08/20 12:37	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.903		0.364	0.371	2.00	0.416	pCi/L		04/13/20 07:29	1

## Client Sample ID: MGWC-2

Date Collected: 03/10/20 12:00

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-7

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.176	U	0.177	0.178	1.00	0.275	pCi/L	03/17/20 07:35	04/08/20 18:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		40 - 110					03/17/20 07:35	04/08/20 18:58	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Client Sample ID: MGWC-2

Date Collected: 03/10/20 12:00

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-7

Matrix: Water

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.413	U	0.291	0.293	1.00	0.452	pCi/L	03/17/20 07:51	04/08/20 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	78.5		40 - 110					03/17/20 07:51	04/08/20 12:37	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.589		0.341	0.343	2.00	0.452	pCi/L		04/13/20 07:29	1

## Client Sample ID: MGWC-8

Date Collected: 03/10/20 13:05

Date Received: 03/11/20 09:00

## Lab Sample ID: 180-103435-8

Matrix: Water

### Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.823		0.281	0.291	1.00	0.231	pCi/L	03/17/20 07:35	04/08/20 18:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					03/17/20 07:35	04/08/20 18:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.13		0.347	0.362	1.00	0.453	pCi/L	03/17/20 07:51	04/08/20 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	81.1		40 - 110					03/17/20 07:51	04/08/20 12:37	1

### Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.95		0.447	0.464	2.00	0.453	pCi/L		04/13/20 07:29	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: MGWC-1**

**Lab Sample ID: 180-103435-9**

Date Collected: 03/10/20 15:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.07		0.333	0.347	1.00	0.281	pCi/L	03/17/20 07:35	04/08/20 18:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					03/17/20 07:35	04/08/20 18:58	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.326	U	0.295	0.296	1.00	0.474	pCi/L	03/17/20 07:51	04/08/20 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.7		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	81.1		40 - 110					03/17/20 07:51	04/08/20 12:37	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.40		0.445	0.456	2.00	0.474	pCi/L		04/13/20 07:29	1

**Client Sample ID: AP-DUP-01**

**Lab Sample ID: 180-103435-10**

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.377		0.201	0.203	1.00	0.223	pCi/L	03/17/20 07:35	04/08/20 18:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					03/17/20 07:35	04/08/20 18:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.480		0.258	0.262	1.00	0.381	pCi/L	03/17/20 07:51	04/08/20 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	85.2		40 - 110					03/17/20 07:51	04/08/20 12:37	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: AP-DUP-01**

**Lab Sample ID: 180-103435-10**

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.857		0.327	0.331	2.00	0.381	pCi/L		04/13/20 07:29	1

**Client Sample ID: AP-DUP-02**

**Lab Sample ID: 180-103435-11**

Date Collected: 03/10/20 00:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.52		0.368	0.393	1.00	0.240	pCi/L	03/17/20 07:35	04/08/20 18:59	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	95.0		40 - 110					03/17/20 07:35	04/08/20 18:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.489		0.253	0.257	1.00	0.370	pCi/L	03/17/20 07:51	04/08/20 12:37	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	95.0		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	84.5		40 - 110					03/17/20 07:51	04/08/20 12:37	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.01		0.447	0.470	2.00	0.370	pCi/L		04/13/20 07:29	1

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-103435-12**

Date Collected: 03/10/20 12:50

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0125	U	0.123	0.123	1.00	0.258	pCi/L	03/17/20 07:35	04/08/20 18:59	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	93.4		40 - 110					03/17/20 07:35	04/08/20 18:59	1

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# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: AP-FB-01**

**Lab Sample ID: 180-103435-12**

Date Collected: 03/10/20 12:50

Matrix: Water

Date Received: 03/11/20 09:00

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.278	U	0.251	0.253	1.00	0.403	pCi/L	03/17/20 07:51	04/08/20 12:37	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					03/17/20 07:51	04/08/20 12:37	1
Y Carrier	80.7		40 - 110					03/17/20 07:51	04/08/20 12:37	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.290	U	0.280	0.281	2.00	0.403	pCi/L		04/13/20 07:29	1

**Client Sample ID: AP-FB-02**

**Lab Sample ID: 180-103435-13**

Date Collected: 03/10/20 12:55

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0679	U	0.135	0.135	1.00	0.245	pCi/L	03/17/20 07:35	04/08/20 19:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					03/17/20 07:35	04/08/20 19:00	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.130	U	0.226	0.226	1.00	0.383	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	78.5		40 - 110					03/17/20 07:51	04/08/20 12:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.198	U	0.263	0.263	2.00	0.383	pCi/L		04/13/20 07:29	1

# Client Sample Results

Client: Southern Company  
Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: AP-FERB-01**

**Lab Sample ID: 180-103435-14**

Date Collected: 03/10/20 13:00

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0148	U	0.129	0.129	1.00	0.275	pCi/L	03/17/20 07:35	04/08/20 19:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	110		40 - 110					03/17/20 07:35	04/08/20 19:00	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00615	U	0.182	0.182	1.00	0.329	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	110		40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	80.0		40 - 110					03/17/20 07:51	04/08/20 12:38	1

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.00866	U	0.223	0.223	2.00	0.329	pCi/L		04/13/20 07:29	1

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-103435-15**

Date Collected: 03/10/20 13:05

Matrix: Water

Date Received: 03/11/20 09:00

**Method: 9315 - Radium-226 (GFPC)**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00194	U	0.129	0.129	1.00	0.271	pCi/L	03/17/20 07:35	04/08/20 19:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					03/17/20 07:35	04/08/20 19:00	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.180	U	0.252	0.252	1.00	0.420	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					03/17/20 07:51	04/08/20 12:38	1
Y Carrier	80.7		40 - 110					03/17/20 07:51	04/08/20 12:38	1

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# Client Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

**Client Sample ID: AP-FERB-02**

**Lab Sample ID: 180-103435-15**

**Date Collected: 03/10/20 13:05**

**Matrix: Water**

**Date Received: 03/11/20 09:00**

**Method: Ra226\_Ra228 - Combined Radium-226 and Radium-228**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.178	U	0.283	0.283	2.00	0.420	pCi/L		04/13/20 07:29	1

- 1
- 2
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- 11
- 12
- 13

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Method: 9315 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-464489/23-A**  
**Matrix: Water**  
**Analysis Batch: 467244**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 464489**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.04966	U	0.107	0.108	1.00	0.201	pCi/L	03/17/20 07:35	04/08/20 23:03	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	98.4		40 - 110			03/17/20 07:35	04/08/20 23:03	1		

**Lab Sample ID: LCS 160-464489/1-A**  
**Matrix: Water**  
**Analysis Batch: 467244**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 464489**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	8.787		1.13	1.00	0.203	pCi/L	77	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Ba Carrier	106		40 - 110						

**Lab Sample ID: LCSD 160-464489/2-A**  
**Matrix: Water**  
**Analysis Batch: 467244**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 464489**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	9.504		1.22	1.00	0.229	pCi/L	84	75 - 125	0.30	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits			Prepared	Analyzed	Dil Fac			
Ba Carrier	98.1		40 - 110								

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

**Lab Sample ID: MB 160-464492/23-A**  
**Matrix: Water**  
**Analysis Batch: 467126**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 464492**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2712	U	0.240	0.242	1.00	0.384	pCi/L	03/17/20 07:51	04/08/20 12:38	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	98.4		40 - 110			03/17/20 07:51	04/08/20 12:38	1		
Y Carrier	81.9		40 - 110			03/17/20 07:51	04/08/20 12:38	1		

# QC Sample Results

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

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

**Lab Sample ID: LCS 160-464492/1-A**  
**Matrix: Water**  
**Analysis Batch: 467264**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 464492**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.95	6.927		0.860	1.00	0.374	pCi/L	77	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	106		40 - 110
Y Carrier	81.9		40 - 110

**Lab Sample ID: LCSD 160-464492/2-A**  
**Matrix: Water**  
**Analysis Batch: 467264**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 464492**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	8.95	7.121		0.902	1.00	0.423	pCi/L	80	75 - 125	0.11	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	98.1		40 - 110
Y Carrier	78.9		40 - 110

# QC Association Summary

Client: Southern Company  
 Project/Site: CCR - Plant McIntosh Ash Pond 1

Job ID: 180-103433-2

## Rad

### Prep Batch: 464489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total/NA	Water	PrecSep-21	
180-103433-2	MGWA-10	Total/NA	Water	PrecSep-21	
180-103435-1	MGWA-5	Total/NA	Water	PrecSep-21	
180-103435-2	MGWA-6	Total/NA	Water	PrecSep-21	
180-103435-3	MGWA-6A	Total/NA	Water	PrecSep-21	
180-103435-4	MGWC-12	Total/NA	Water	PrecSep-21	
180-103435-5	MGWC-3	Total/NA	Water	PrecSep-21	
180-103435-6	MGWC-7	Total/NA	Water	PrecSep-21	
180-103435-7	MGWC-2	Total/NA	Water	PrecSep-21	
180-103435-8	MGWC-8	Total/NA	Water	PrecSep-21	
180-103435-9	MGWC-1	Total/NA	Water	PrecSep-21	
180-103435-10	AP-DUP-01	Total/NA	Water	PrecSep-21	
180-103435-11	AP-DUP-02	Total/NA	Water	PrecSep-21	
180-103435-12	AP-FB-01	Total/NA	Water	PrecSep-21	
180-103435-13	AP-FB-02	Total/NA	Water	PrecSep-21	
180-103435-14	AP-FERB-01	Total/NA	Water	PrecSep-21	
180-103435-15	AP-FERB-02	Total/NA	Water	PrecSep-21	
MB 160-464489/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-464489/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-464489/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 464492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-103433-1	MGWA-11	Total/NA	Water	PrecSep_0	
180-103433-2	MGWA-10	Total/NA	Water	PrecSep_0	
180-103435-1	MGWA-5	Total/NA	Water	PrecSep_0	
180-103435-2	MGWA-6	Total/NA	Water	PrecSep_0	
180-103435-3	MGWA-6A	Total/NA	Water	PrecSep_0	
180-103435-4	MGWC-12	Total/NA	Water	PrecSep_0	
180-103435-5	MGWC-3	Total/NA	Water	PrecSep_0	
180-103435-6	MGWC-7	Total/NA	Water	PrecSep_0	
180-103435-7	MGWC-2	Total/NA	Water	PrecSep_0	
180-103435-8	MGWC-8	Total/NA	Water	PrecSep_0	
180-103435-9	MGWC-1	Total/NA	Water	PrecSep_0	
180-103435-10	AP-DUP-01	Total/NA	Water	PrecSep_0	
180-103435-11	AP-DUP-02	Total/NA	Water	PrecSep_0	
180-103435-12	AP-FB-01	Total/NA	Water	PrecSep_0	
180-103435-13	AP-FB-02	Total/NA	Water	PrecSep_0	
180-103435-14	AP-FERB-01	Total/NA	Water	PrecSep_0	
180-103435-15	AP-FERB-02	Total/NA	Water	PrecSep_0	
MB 160-464492/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-464492/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-464492/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	





301 Alpha Drive RIDC Park  
Pittsburgh, PA 15238  
Phone (412) 963-7058 Fax (412) 963-2468

**Chain of Custody Record**

**681-Atlanta**



Environment Testing  
TestAmerica

<b>Client Information</b>		Lab PM Bortol, Veronica		Carrier Tracking No(s): 180-57786-11316.2		COC No: 180-57786-11316.2	
Client Contact: Ms. Lauren Petty		Phone: E-Mail: veronica.bortol@testamericainc.com		Page: Page 1 of 2		Job #:	
Company: Southern Company		Due Date Requested:		<b>Analysis Requested</b>		Preservation Codes:	
Address: PO BOX 2641 GSC8		TAT Requested (days):		Field Filtered Sample (Yes or No)		Total Number of Containers	
City: Birmingham		PO #:		D		M - Hexane	
State, Zip: AL, 35291		SCS:10382606		N		N - None	
Phone: 205-992-5417(Tel)		WO #:		X		O - AsNaO2	
Email: lmpetty@southernco.com		Project #: 18019956		X		P - Na2O4S	
Project Name: CCR - Plant McIntosh Ash Pond 1		SSOW#:		X		Q - Na2SO3	
Site: Georgia		Sample Date		X		R - Na2S2O3	
Sample Identification		Sample Time		X		S - H2SO4	
M6WA-5	6	3/10/20	0945	X	X	T - TSP Dodecahydrate	
M6WA-6	6		1115	X	X	U - Acetone	
M6WA-6A			1000	X	X	V - MCAA	
M6WC-12			1045	X	X	W - pH 4-5	
M6WC-3			1055	X	X	Z - other (specify)	
M6W0-7			1240	X	X	Other:	
M6WC-2			1200	X	X	Special Instructions/Note:	
M6WC-8			1365	X	X	3 Analyze App11	
M6WC-1			1500	X	X	Radium 226, 228	
AP-DUP-01				X	X	and App1V	
AP-DUP-02				X	X	EXCEPT Selenium	
Possible Hazard Identification		Sample Matrix		Field Filtered Sample (Yes or No)		Barcode	
<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological	180-103435 Chain of Custody	
Deliverable Requested: I, II, III, IV, Other (specify)		Sample Type		Special Instructions/QC Requirements:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by:		Sample Time		Return To Client <input checked="" type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:	
Relinquished by: <i>Amber</i>		Sample Date		Special Instructions/QC Requirements:		Method of Shipment:	
Relinquished by:		Date/Time: 3/10/20 0920		Received by: <i>Michelle Watson</i>		Date/Time: 5-11-20	
Relinquished by:		Date/Time:		Received by:		Date/Time: 9:00	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Date/Time:		Received by:		Date/Time:	
Custody Seal No.:		Date/Time:		Received by:		Date/Time:	
Cooler Temperature(s) °C and Other Remarks:		Date/Time:		Received by:		Date/Time:	





**Chain of Custody Record**

<b>Client Information</b> Client Contact: Lauren Petty Phone: 4045920094 E-Mail: veronica.bortot@testamericainc.com Company: Southern Company		Lab PM: Bortot, Veronica Carrier Tracking No(s): Page: 2 of 2 Job #:						
Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: Impetty@southernco.com		<b>Analysis Requested</b> Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: <del>4885956</del> 18019954 SSOW#:						
Project Name: CCR - Plant McIntosh Site: Plant McIntosh		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 Other: 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)						
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Note:
AP-FB-01	3/10/20	1250	G	W	M	N	3	Analyze App III
AP-FB-02		1255					3	Radium 226, 228
AP-FERB-01		1300					3	App IV, EXCEPT
AP-FERB-02		1305					3	SELENIUM
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)								
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:								
<b>Empty Kit Relinquished by:</b> _____ Relinquished by: _____ Date/Time: 3/10/20 1920 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact: _____ Δ Yes Δ No								
<b>Received by:</b> _____ Date/Time: _____ Received by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Cooler Temperature(s) °C and Other Remarks:								



<b>Client Information</b>		Lab PM: Bortot, Veronica		Carrier Tracking No(s):		COC No: 180-57786-11316.2		
Client Contact: Ms. Lauren Petty		E-Mail: veronica.bortot@testamericainc.com		Page 1 of 2		Job #:		
Company: Southern Company		Due Date Requested:		<b>Analysis Requested</b>				
Address: PO BOX 2641 GSC8		TAT Requested (days):		Total Number of Containers				
City: Birmingham								
State, Zip: AL, 35291								
Phone: 205-992-5417(Tel)								
Email: Impetty@southernco.com								
Project #: 18019956								
Site: Georgia								
Project Name: CCR - Plant McIntosh Ash Pond 1								
SSOW#:								
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wash/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	D	N	Special Instructions/Note:
MGWA-5	3/10/20	0945	6	Water	X	X	X	Analyze App III
MGWA-6		1115		Water				Radium 226, 228
MGWA-6A		1000		Water				and App IV
MGWC-12		1045		Water				EXCEPT Selenium
MGWC-3		1055		Water				
MGWC-7		1240		Water				
MGWC-2		1200		Water				
MGWC-8		1305		Water				
MGWC-1		1500		Water				
AP-DUP-01				Water				
AP-DUP-02				Water				
<b>Possible Hazard Identification</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Radiological		
<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Return To Client		<input type="checkbox"/> Archive For		Months
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:						
Empty Kit Relinquished by:		Date:		Method of Shipment:				
Relinquished by: <i>Lambert</i>		Date/Time: 3/10/20 0920		Received by: <i>Melanie Watson</i>		Date/Time: 5-11-20		Company: <i>FAPIA</i>
Relinquished by:		Date/Time:		Received by:		Date/Time: 9:00		Company:
Relinquished by:		Date/Time:		Received by:		Date/Time:		Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:				





**Chain of Custody Record**

<b>Client Information</b>		Lab PM: Bortot, Veronica		Carrier Tracking No(s):	
Client Contact: Lauren Petty		Phone: 4045920094		E-Mail: veronica.bortot@testamericainc.com	
Company: Southern Company		Address: PO BOX 2641 GSC8		City: Birmingham	
State, Zip: AL, 35291		TAT Requested (days):		Rush	
Phone: 205-992-5417(Tel)		PO #: SCS10347656		WO #:	
Email: Impetty@southernco.com		Project #: 44845050-18019954		SSOW#:	
Project Name: CCR - Plant McIntosh		Site: Ash Pond		Plant: McIntosh	

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
AP-FB-01	3/16/20	1250	G	W	X	X	9315-PA226, 9320-PA228	3	Analyze App III
AP-FB-02		1255			X	X	6020-B, Ca + dehydrated APP IV	3	Radium 226, 228
AP-FERB-01		1300			X	X	2540C-Calc, 300-CI, 31, P, H, T, D S	3	APP IV, EXCEPT
AP-FERB-02		1305			X	X		3	Selenium

<b>Possible Hazard Identification</b>		<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date:	
Relinquished by: <i>Jan Orin</i>		Date/Time: 3/10/20 1920	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	

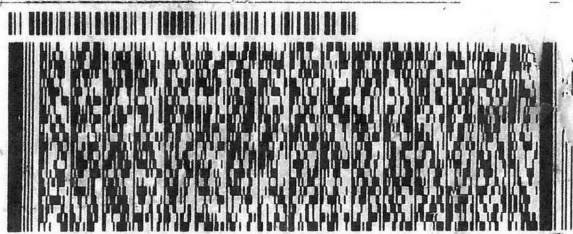
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client <input type="checkbox"/> Disposal By Lab <input checked="" type="checkbox"/> Archive For _____ Months	
Special Instructions/QC Requirements:		Method of Shipment:	
Received by: <i>Dulme Watson</i>		Date/Time: 5-1-20	
Received by:		Date/Time:	
Received by:		Date/Time:	
Cooler Temperature(s) °C and Other Remarks:		Company: <i>ETAP, Inc</i>	

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SA  
 EUROFIN  
 301 ALPHA DR.  
 RIDC PARK  
 PITTSBURGH PA 15238

(412) 963-7068  
 REF: SOUTHERN



edEx  
 Express



WED - 11 MAR 3:00P  
 STANDARD OVERNIGHT

TRK# 1516 9323 1447  
 0201

NA AGCA

15238  
 PA-US PIT

Uncorrected temp 3.7 °C  
 Thermometer ID 17  
 CF Ø Initials JS  
 PT-WI-SR-001 effective 11/8/18

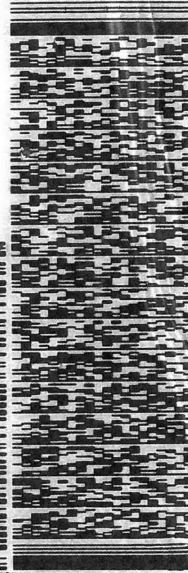


SHIP DATE: 10MAR20  
ACTWGT: 32.80 LB  
CAD: 6994919/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

IGIN ID: SAVA (412) 963-2435  
RONICA BORTOT  
E CHEERS 5 BEFORE BILL  
1 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238  
REF: (412) 963-8222



WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

3 of 5  
MPS# 3910 1405 5900  
Mstr# 3910 1405 5885

XH AGCA

15238  
PA-US PIT



Uncorrected temp  
Thermometer ID  
CF 0 Initials JS

PT-WI-SR-001 effective 11/8/18

SHIP DATE: 10MAR20  
ACTWGT: 32.80 LB  
CAD: 6994919/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

ORIGIN ID: SAVA (412)  
VERONICA BORTOT  
SEE CHEERS 5 BEFORE I  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

TO VERONICA BO  
TEST AMERIC  
301 ALPHA DR

PITTSBURGH  
(412) 963-8222

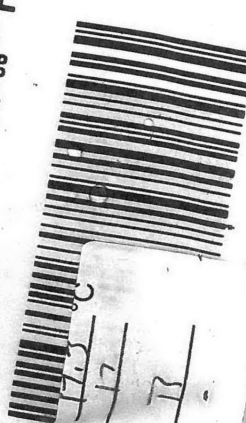


WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

4 of 5  
MPS# 3910 1405 5  
Mstr# 3910 1405 58E

XH AGI

15238  
PA-US PIT



Uncorrected temp  
Thermometer ID  
CF 0 M J Initials JS

PT-WI-SR-001 effective 11/8/18



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- 12
- 13

ETP: 13  
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 PU: SP: 100: V  
**110-1076**  
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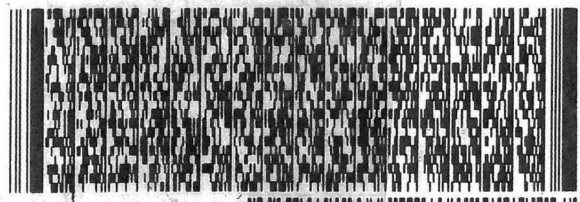


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 CF  
 Initials JS  
 Thermometer ID 3.4  
 Uncorrected temp 17

PA-US  
 PIT  
 15238

**XH AGCA**

MPS# 3910 1405 5896  
 Mat# 3910 1405 5885  
 0263  
 0201  
 WED - 11 MAR 10:30A  
 PRIORITY OVERNIGHT



12010200113011v

PITTSBURGH PA 15238

TO VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

ORIGIN ID: SAVA (412) 963-2435  
 VERONICA BORTOT  
 SEE CHECKS 5 BEFORE BILL  
 301 ALPHA DR  
 PITTSBURGH, PA 15238  
 UNITED STATES US  
 SHIP DATE: 10MAR20  
 ACTWGT: 44.70 LB  
 CAD: 6984919/SSFE2021  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY

Part 15536 XP 01/21  
 55A12/64E07E48:3951 # JNF



Part # 156299469407E46

SHIP DATE: 10MAR20  
ACTWT: 32.80 LB  
CAD: 6994619/SSFE2021  
DIMS: 21x14x14 IN  
BILL THIRD PARTY

ORIGIN ID: SAVA (412) 963-2435  
VERONICA BORTOT  
SEE CHECKS 5 BEFORE BILL  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH PA 15238  
REF: (412) 863-8222  
DEPT: 4

SHIP BY  
ACTWT:  
CAD: 69  
DIMS: 21x14x14 IN  
BILL TH

963-2435

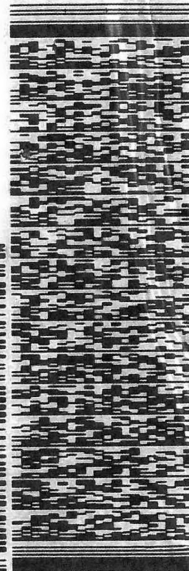
BILL

ORIGIN ID: SAVA (412)  
VERONICA BORTOT  
SEE CHECKS 5 BEFORE BILL  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH  
(412) 863-8222  
DEPT: 4

PA 15238  
REF: (412) 863-8222  
DEPT: 4

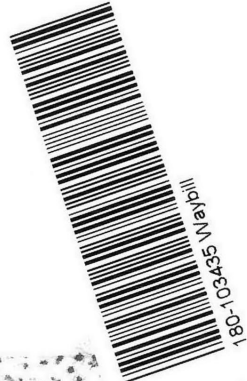


WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

MPS# 3910 1405 5900  
Mstr# 3910 1405 5885  
0263 0201

XH AGCA

15238  
PA-US  
PIT



Uncorrected temp  
Thermometer ID  
CF 0 Initials B  
PT-WI-SR-001 effective 11/8/18

963-2435

BILL

ORIGIN ID: SAVA (412)  
VERONICA BORTOT  
SEE CHECKS 5 BEFORE BILL  
301 ALPHA DR  
PITTSBURGH, PA 15238  
UNITED STATES US

TO VERONICA BORTOT  
TEST AMERICA  
301 ALPHA DR

PITTSBURGH  
(412) 863-8222  
DEPT: 4

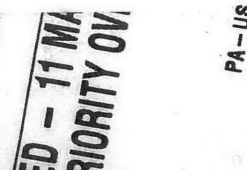
PA 15238  
REF: (412) 863-8222  
DEPT: 4

WED - 11 MAR 10:30A  
PRIORITY OVERNIGHT

MPS# 3910 1405 5900  
Mstr# 3910 1405 5885  
0263 0201

XH AGI

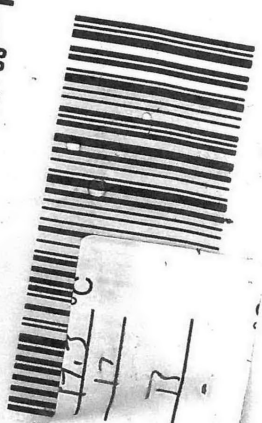
15238  
PA-US  
PIT



Uncorrected temp  
Thermometer ID  
CF 0 Initials B  
PT-WI-SR-001 effective 11/8/18

4 of 6  
MPS# 3910 1405 5  
Mstr# 3910 1405 5885  
0263 0201  
XH AGI

15238  
PA-US  
PIT



Uncorrected temp  
Thermometer ID  
CF 0 Initials B  
PT-WI-SR-001 effective 11/8/18

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14834698398 PD:SP:100.Y  
 EFP: 13  
**110-1076**  
 313265215-81  
 3/28 10:28 PM TO 3/12/17  
 3/28 10:28 PM TO 3/12/17

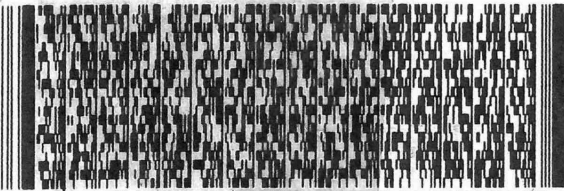


PT-WI-SR-001 effective 11/8/18  
 CF. 0  
 Initials JS  
 Thermometer ID 317  
 Uncorrected temp

PA-US  
 15238  
 PIT

**XH AGCA**

MPS# 3910 1405 5896  
 Met# 3910 1405 5886  
 0263  
 0201  
**WED - 11 MAR 10:30A**  
**PRIORITY OVERNIGHT**



**PITTSBURGH PA 15238**

**10 VERONICA BORTOT**  
**TEST AMERICA**  
**301 ALPHA DR**

ORIGIN ID:SAVA (412) 963-2435  
 VERONICA BORTOT  
 SEE CHECKS 5 BEFORE BILL  
 301 ALPHA DR  
 PITTSBURGH, PA 15238  
 UNITED STATES US  
 SHIP DATE: 10MAR20  
 ACTWGT: 44.70 LB  
 CAD: 6994919/SSFE2021  
 DIMS: 24x13x14 IN  
 BILL THIRD PARTY

Part # 15625465832/5610/FE4646



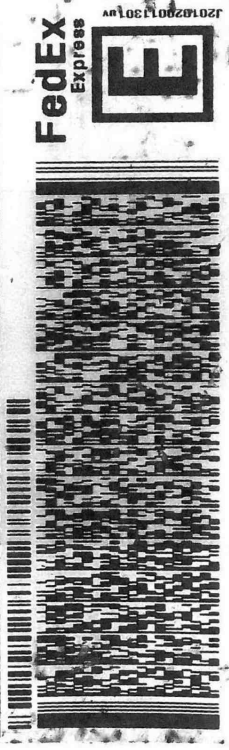
VERONICA BORTOT  
 SEE CHEERS 5 BEFORE BILL  
 301 ALPHA DR PA 15238  
 PITTSBURGH, PA  
 UNITED STATES US

SHIP DATE: 10MAR20  
 ACTWGT: 42.90 LB  
 CAD: 6994919/55FE2021  
 DIMS: 20x13x15 IN  
 BILL THIRD PARTY

TO VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

PITTSBURGH PA 15238

REF: (412) 983-6222



WED - 11 MAR 10:30A  
 PRIORITY OVERNIGHT

5 of 5  
 MPS# 3910 1405 5922  
 Metr# 3910 1405 5885

XH AGCA

15238  
 PA-US PIT

Uncorrected temp \_\_\_\_\_ °C  
 Thermometer ID M12  
 CF 0 Initials JB

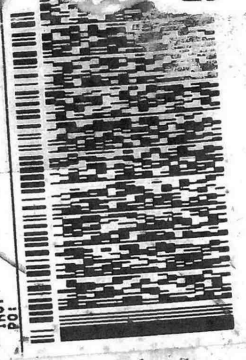
PT-WI-SR-001 effective 11/8/18

ORIGIN ID: SAVA (412) 963-2435  
 VERONICA BORTOT  
 SEE CHEERS 5 BEFORE BILL  
 301 ALPHA DR PA 15238  
 PITTSBURGH, PA  
 UNITED STATES US

TO VERONICA BORTOT  
 TEST AMERICA  
 301 ALPHA DR

PITTSBURGH PA 15238

REF: (412) 983-6222



WED - 11 MAR 10:30A  
 PRIORITY OVERNIGHT

1 of 5  
 TRM# 3910 1405  
 0201  
 ## MASTER ##

XH AC

15238  
 PA-US PIT



Uncorrected tem  
 Thermometer IC

CF 0 Initials II

PT-WI-SR-001 effective 11/8/18

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- 13

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Bortol, Veronica	Carrier Tracking No(s): 180-387589_1
Client Contact: Shipping/Receiving		State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		E-Mail: veronica.bortol@testamericainc.com	Job #: 180-103433-2
Address: 13715 Rider Trail North,		Accreditations Required (See note):	
City: Earth City	Due Date Requested: 4/6/2020	<b>Analysis Requested</b> M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Ascorbic Acid V - MCAA W - pH 4.5 Z - other (specify)	
State, Zip: MO, 63045	TAT Requested (days):		
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: CCR - Plant McIntosh Ash Pond 1	Project #: 18019956	9320_Ra228/PreSep_0 Standard Target List 9315_Ra226/PreSep_21 (MOD) Copy Analytes Ra226Ra228_GFPc	
Site: Southern McIntosh Ash Pond 1	SSOW#:	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Total Number of Containers: 1	
<b>Sample Identification - Client ID (Lab ID)</b>		Matrix (W=water, S=solid, O=wast/oil, BT=BTISUB, AS=AG)	Special Instructions/Note:
MGWA-11 (180-103433-1)	Sample Date 3/9/20	Sample Type (C=Comp, G=grab)	Special Instructions/Note: Total Number of Containers: 1
MGWA-10 (180-103433-2)	Sample Time 17:00 Eastern 17:05 Eastern	Preservation Code:	
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.			
<b>Possible Hazard Identification</b>			
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2			
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: <i>[Signature]</i> Date/Time: 3/13/20 1700 Relinquished by: <i>FE</i> Date/Time: _____ Relinquished by: _____ Date/Time: _____			
Custody Seals Intact: _____ Custody Seal No.: _____ Δ Yes Δ No			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Received by: <i>FE</i> Date/Time: _____ Received by: <i>OMkenhinings</i> Date/Time: 3/14/2020 09:07 Received by: _____ Date/Time: _____ Cooler Temperature(s) °C and Other Remarks:			

# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103433-2

**Login Number: 103433**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103433-2

**Login Number: 103433**

**List Number: 2**

**Creator: Korrinhizer, Micha L**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 03/16/20 03:50 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





## Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103433-2

**Login Number: 103435**

**List Source: Eurofins TestAmerica, Pittsburgh**

**List Number: 1**

**Creator: Watson, Debbie**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	ONE WITH RADS NOT ON ICE
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-103433-2

**Login Number: 103435**

**List Number: 2**

**Creator: Korrinhizer, Micha L**

**List Source: Eurofins TestAmerica, St. Louis**

**List Creation: 03/16/20 03:50 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



**LEVEL 2A LABORATORY DATA VALIDATIONS**

**McIntosh Ash Pond 1**

**1<sup>st</sup> Semi-Annual Event**

**March 2020**

## **Georgia Power Company – McIntosh Ash Pond 1**

### **Quality Control Review of Analytical Data – March 2020**

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Eurofins TestAmerica, Pittsburgh and St. Louis for groundwater samples collected at McIntosh AP1 between March 9, 2020 and March 10, 2020. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision-making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1 of this Appendix. SDG 180-103433 was revised by the laboratory to remove lab pH analysis data.

In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detected monitoring constituents listed in 40 CFR, Part 257, Appendix III and assessment monitoring constituents listed in 40 CFR, Part 257, Appendix IV. Test methods included Inductively Coupled Plasma – Mass Spectrometry (USEPA Method 6020B), Mercury in Liquid Wastes (USEPA Method 7470A), Determination of Inorganic Anions (USEPA Method 300.0), Solids in Water (Standard Methods 2540C), Radium-226 (USEPA 9315), and Radium-228 (USEPA Method 9320).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0)<sup>1</sup> and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)<sup>2</sup>. The review included an assessment of the results for completeness, precision (laboratory duplicate recoveries and matrix spike/matrix spike duplicate recoveries), accuracy (laboratory control samples and matrix spike samples), and blank contamination (field, equipment, and laboratory blanks). Sample receipt conditions, holding times, and chains of custody (COCs) were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytical methodology, method-specific criteria or professional judgment were used.

## DATA QUALITY OBJECTIVES

**Laboratory Precision:** Laboratory goals for precision were met.

**Field Precision:** Field goals for precision were met, with the exceptions of Arsenic and combined Radium on MGWC-1 (180-103435-9) and combined Radium on MGWC-2 (180-103435-7) as described in the qualifications section below.

**Accuracy:** Laboratory goals for accuracy were met, with the exception of Radium-226 and Radium-228 on MGWA-10 (180-103433-2) as described in the qualifications section below.

**Detection Limits:** Project goals for detection limits were met. Certain samples were diluted due to the concentration of target or non-target analyte interferences. Dilutions do not require qualifications based on USEPA guidelines. Reporting limits (RLs) of non-detect compounds are elevated proportional to the dilution when undiluted sample results were not provided by the laboratory. The data usability of diluted results was evaluated by the data user in the context of site-wide characterization.

**Completeness:** There were no rejected analytical results for this event, resulting in a completion of 100%.

**Holding Times:** Holding time requirements were met.

## QUALIFICATIONS

In general, chemical results for the samples collected at the site were qualified on the basis of low precision or low accuracy or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the validation process:

**J:** The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample

**U:** The analyte was not detected above the method detection limit

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines except as specified below. The applied qualifications may not have been required for all samples collected at the site. A summary of sample qualifications can be found in Table 2 of this Appendix.

- Samples MGWC-1 (180-103435-9) and AP-DUP-02 (180-103435-11) were qualified as estimated (J) for Arsenic and combined Radium as the field relative percent difference (RPD) exceeded QC criteria (34.78% and 35.78%, respectively above the limit of 25).
- Samples MGWC-2 (180-103435-7) and AP-DUP-01 (180-103435-10) were qualified as estimated (J) for combined Radium as the field RPD exceeded QC criteria (37.07% above limit of 25).
- Sample MGWA-10 (180-103433-2) was qualified as estimated (J) for Radium-226 and Radium-228 as the respective Barium carriers exceeded QC criteria (both 112% above range of 40-110).
- Certain Beryllium and/or Thallium results in SDG 180-103433 were qualified as non-detect (U) due to the analyte(s) being detected at a similar concentration in an associated blank sample. As shown in Table 2, when the original sample result was below the RL, the method detection limit (MDL) was raised to the sample result as part of the qualification process.

Atlantic Coast Consulting, Inc. reviewed the laboratory data from McIntosh AP1 sampled between March 9, 2020 and March 10, 2020 in accordance with the analytical methods, the laboratory-specified QC criteria, and the guidelines. As described above, the results were acceptable for project use.

## REFERENCES

<sup>1</sup>USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0

<sup>2</sup>USEPA, January 2017, National Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Superfund Methods Data Review, Revision 0.0



TABLE 1

## Georgia Power Company – McIntosh AP1

## Sample Summary Table – March 2020

SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Analyses			
						Metals (6020B, 7470A)	Anions (300.0)	TDS (SM 2540C)	Radium-226/-228 (9315, 9320)
103433	MGWA-11	3/9/2020	180-103433-1	GW		X	X	X	X
103433	MGWA-10	3/9/2020	180-103433-2	GW		X	X	X	X
103433	MGWA-5	3/10/2020	180-103435-1	GW		X	X	X	X
103433	MGWA-6	3/10/2020	180-103435-2	GW		X	X	X	X
103433	MGWA-6A	3/10/2020	180-103435-3	GW		X	X	X	X
103433	MGWC-12	3/10/2020	180-103435-4	GW		X	X	X	X
103433	MGWC-3	3/10/2020	180-103435-5	GW		X	X	X	X
103433	MGWC-7	3/10/2020	180-103435-6	GW		X	X	X	X
103433	MGWC-2	3/10/2020	180-103435-7	GW		X	X	X	X
103433	MGWC-8	3/10/2020	180-103435-8	GW		X	X	X	X
103433	MGWC-1	3/10/2020	180-103435-9	GW		X	X	X	X
103433	AP-DUP-01	3/10/2020	180-103435-10	GW	FD (MGWC-2)	X	X	X	X
103433	AP-DUP-02	3/10/2020	180-103435-11	GW	FD (MGWC-1)	X	X	X	X
103433	AP-FB-01	3/10/2020	180-103435-12	WQ	FB	X	X	X	X
103433	AP-FB-02	3/10/2020	180-103435-13	WQ	FB	X	X	X	X
103433	AP-FERB-01	3/10/2020	180-103435-14	WQ	EB	X	X	X	X
103433	AP-FERB-02	3/10/2020	180-103435-15	WQ	EB	X	X	X	X

## Abbreviations:

EB – Equipment Blank

FB – Field Blank

FD – Field Duplicate

GW – Groundwater

QC – Quality Control

TDS – Total Dissolved Solids

WQ – Water Quality Control

TABLE 2

## Georgia Power Company – McIntosh AP1

## Qualifier Summary Table – March 2020

SDG	Field Identification	Constituent	New RL	New MDL or MDC	Qualifier	Reason
103433	MGWA-10	Radium-226			J	High Ba carrier
103433	MGWA-10	Radium-228			J	High Ba carrier
103433	MGWC-2	Radium combined			J	RPD exceeds field goal
103433	AP-DUP-01	Radium combined			J	RPD exceeds field goal
103433	MGWC-1	Radium combined			J	RPD exceeds field goal
103433	AP-DUP-02	Radium combined			J	RPD exceeds field goal
103433	MGWC-1	Arsenic			J	RPD exceeds field goal
103433	AP-DUP-02	Arsenic			J	RPD exceeds field goal
103433	MGWA-11	Thallium		0.00036	U	Blank detection
103433	MGWA-10	Beryllium		0.00045	U	Blank detection
103433	MGWA-10	Thallium		0.00058	U	Blank detection
103433	MGWA-6	Thallium		0.00019	U	Blank detection
103433	MGWC-3	Thallium		0.00016	U	Blank detection
103433	MGWC-8	Beryllium		0.0013	U	Blank detection
103433	MGWC-8	Thallium		0.00025	U	Blank detection

## Abbreviations:

MDC – Minimum Detectable Concentration  
MS/MSD – Matrix Spike / Matrix Spike Duplicate  
MDL – Method Detection Limit  
RL – Reporting Limit  
RPD – Relative Percent Difference  
SDG – Sample Delivery Group  
TDS – Total Dissolved Solids

## Qualifiers:

J – Estimated Result  
U – Non-Detect Result

Product Name: Low-Flow System

Date: 2020-03-10 15:16:39

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name McIntosh  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613179  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type QED Bladder  
Tubing Type LDPE  
Tubing Diameter .170 in  
Tubing Length 50 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-1  
Well diameter 2 in  
Well Total Depth 55.78 ft  
Screen Length 10 ft  
Depth to Water 36.90 ft

Pumping Information:

Final Pumping Rate 120 mL/min  
Total System Volume 0.3131711 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 3.6 in  
Total Volume Pumped 7.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10%		+/- 0.2	+/- 10%
Last 5	14:26:25	600.02	21.33	7.01	667.43	17.20	37.59	1.68	-31.51
Last 5	14:31:25	900.02	21.34	7.08	671.77	12.00	37.65	0.86	-24.21
Last 5	14:36:25	1200.02	21.43	7.10	670.20	6.68	37.61	0.79	-14.92
Last 5	14:41:25	1500.02	21.38	7.12	667.96	6.42	37.70	0.71	-10.77
Last 5	14:46:25	1800.02	21.46	7.11	666.75	4.69	37.71	0.72	-4.07
Variance 0			0.09	0.03	-1.56			-0.06	9.29
Variance 1			-0.06	0.02	-2.25			-0.09	4.15
Variance 2			0.09	-0.01	-1.20			0.01	6.69

Notes

Sampled at 1500 AP-DUP-02 taken here

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-10 11:55:33

Project Information:

Operator Name J.Noles  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 497259  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 40 ft

Pump placement from TOC ft

Well Information:

Well ID MGWC-2  
Well diameter 2 in  
Well Total Depth 37 ft  
Screen Length 10 ft  
Depth to Water 19.65 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.2685369 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 12.48 in  
Total Volume Pumped 4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	11:39:06	300.03	20.11	7.36	803.69	1.41	20.56	0.67	-5.80
Last 5	11:44:07	600.90	20.04	7.33	803.02	1.33	20.60	0.56	-6.60
Last 5	11:49:07	900.90	20.07	7.31	802.57	1.29	20.65	0.54	-7.23
Last 5	11:54:07	1200.90	20.11	7.30	801.93	1.17	20.69	0.51	-7.36
Last 5									
Variance 0			-0.08	-0.03	-0.66			-0.11	-0.80
Variance 1			0.04	-0.01	-0.45			-0.02	-0.63
Variance 2			0.04	-0.02	-0.64			-0.03	-0.13

Notes

Sampled at 1200

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-10 11:08:56

Project Information:

Operator Name J Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 647057  
Turbidity Make/Model

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 33.44 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-3  
Well diameter 2 in  
Well Total Depth 38.74 ft  
Screen Length 10 ft  
Depth to Water 16.83 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.2392569 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 4.08 in  
Total Volume Pumped 3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	10:37:57	600.01	19.74	6.81	611.61	1.40	17.15	0.62	24.43
Last 5	10:42:57	900.00	19.80	6.84	618.76	1.59	17.15	0.57	23.95
Last 5	10:47:57	1199.99	19.86	6.85	619.96	0.98	17.16	0.59	24.06
Last 5	10:52:57	1499.99	19.92	6.86	619.64	0.53	17.16	0.62	26.50
Last 5	10:57:57	1799.97	19.93	6.87	619.75	0.41	17.17	0.63	24.85
Variance 0			0.06	0.01	1.20			0.02	0.11
Variance 1			0.06	0.01	-0.32			0.02	2.44
Variance 2			0.01	0.01	0.11			0.02	-1.65

Notes

Sampled at 1055

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-10 09:52:24

Project Information:

Operator Name J Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 647057  
Turbidity Make/Model

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 57.79 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWA-5  
Well diameter 2 in  
Well Total Depth 63.9 ft  
Screen Length 10 ft  
Depth to Water 21.02 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.3479412 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 10.08 in  
Total Volume Pumped 4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	09:26:43	1499.98	20.02	7.33	283.25	2.85	21.82	0.64	27.23
Last 5	09:31:43	1799.97	20.11	7.32	282.45	2.82	21.84	0.73	19.24
Last 5	09:36:43	2099.96	20.14	7.32	281.77	2.72	21.85	0.60	12.71
Last 5	09:41:43	2399.96	20.19	7.30	281.03	2.54	21.86	0.59	5.86
Last 5	09:46:43	2699.95	20.19	7.30	282.03	2.29	21.86	0.56	0.22
Variance 0			0.03	0.00	-0.68			-0.13	-6.54
Variance 1			0.05	-0.02	-0.75			-0.01	-6.85
Variance 2			0.01	-0.00	1.00			-0.03	-5.64

Notes

Sampled at 0945

Grab Samples



Product Name: Low-Flow System

Date: 2020-03-10 11:21:57

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name McIntosh  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613179  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter .170 in  
Tubing Length 36 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-6  
Well diameter 2 in  
Well Total Depth 41.63 ft  
Screen Length 10 ft  
Depth to Water 18.60 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2506832 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 7.44 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10%		+/- 0.2	+/- 10%
Last 5	10:50:30	1200.02	21.21	7.06	524.25	1.62	18.71	1.20	7.55
Last 5	10:55:30	1500.02	21.38	7.05	525.83	1.62	18.71	1.11	5.06
Last 5	11:00:30	1800.02	21.55	7.02	527.24	1.31	18.71	0.64	2.79
Last 5	11:05:30	2100.02	21.64	7.00	527.38	1.43	18.72	0.31	0.52
Last 5	11:10:30	2400.03	21.64	7.00	527.78	1.21	18.72	0.26	-1.66
Variance 0			0.18	-0.03	1.41			-0.47	-2.27
Variance 1			0.09	-0.02	0.14			-0.32	-2.27
Variance 2			0.00	-0.00	0.40			-0.05	-2.19

Notes

Sampled at 1115

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-10 09:54:53

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name McIntosh  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613179  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter .170 in  
Tubing Length 35 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-6A  
Well diameter 2 in  
Well Total Depth 39 ft  
Screen Length 10 ft  
Depth to Water 17.10 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2462198 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 13.2 in  
Total Volume Pumped 7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10%		+/- 0.2	+/- 10%
Last 5	09:32:10	1800.02	19.42	6.98	428.13	4.65	18.15	0.72	-69.15
Last 5	09:37:10	2100.02	19.46	6.99	442.77	4.89	18.15	0.55	-85.20
Last 5	09:42:10	2400.02	19.62	7.00	457.41	4.53	18.17	0.30	-100.02
Last 5	09:47:10	2700.02	19.66	7.02	468.74	4.89	18.18	0.22	-109.99
Last 5	09:52:10	3000.02	19.82	7.04	478.92	3.91	18.20	0.15	-115.72
Variance 0			0.15	0.01	14.63			-0.25	-14.82
Variance 1			0.05	0.02	11.34			-0.08	-9.97
Variance 2			0.15	0.01	10.18			-0.06	-5.73

Notes

Sampled at 10:00

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-10 12:38:21

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name McIntosh  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613179  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter .170 in  
Tubing Length 35 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-7  
Well diameter 2 in  
Well Total Depth 43 ft  
Screen Length 10 ft  
Depth to Water 19.10 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2462198 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 4.8 in  
Total Volume Pumped 13 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10%		+/- 0.2	+/- 10%
Last 5	12:16:46	1500.02	21.04	6.31	514.76	1.58	19.47	0.20	32.32
Last 5	12:21:46	1800.02	21.06	6.41	529.91	1.91	19.50	0.19	23.25
Last 5	12:26:46	2100.02	21.07	6.48	537.56	1.82	19.50	0.18	13.67
Last 5	12:31:46	2400.02	21.09	6.54	534.84	1.25	19.50	0.17	9.10
Last 5	12:36:46	2700.03	21.06	6.54	534.44	1.05	19.50	0.17	8.06
Variance 0			0.01	0.07	7.65			-0.01	-9.58
Variance 1			0.02	0.05	-2.72			-0.01	-4.57
Variance 2			-0.03	0.01	-0.40			0.01	-1.04

Notes

Sampled at 1240

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-10 13:16:26

Project Information:

Operator Name J Bash  
Company Name GEI  
Project Name AP1  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 647057  
Turbidity Make/Model

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 47.26 ft

Pump placement from TOC 1 ft

Well Information:

Well ID MGWC-8  
Well diameter 2 in  
Well Total Depth 52.56 ft  
Screen Length 10 ft  
Depth to Water 30.01 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.3009414 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0.96 in  
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	12:52:42	2699.95	21.67	5.51	858.63	0.78	30.10	0.23	103.54
Last 5	12:57:42	2999.94	21.62	5.51	870.17	0.07	30.10	0.23	102.69
Last 5	13:02:42	3299.93	21.57	5.51	876.34	0.04	30.10	0.23	101.66
Last 5	13:07:42	3599.92	21.58	5.50	886.39	0.21	30.09	0.26	100.84
Last 5	13:12:42	3899.92	21.56	5.50	887.89	0.22	30.09	0.25	100.28
Variance 0			-0.05	0.07	6.17			0.00	-1.03
Variance 1			0.01	0.06	10.05			0.03	-0.82
Variance 2			-0.01	0.03	1.50			-0.00	-0.56

Notes

Sampled at 1305

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-09 17:07:33

Project Information:

Operator Name J Bash  
Company Name GEI  
Project Name McIntosh  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 647057  
Turbidity Make/Model

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 47.79 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-10  
Well diameter 2 in  
Well Total Depth 53.09 ft  
Screen Length 10 ft  
Depth to Water 15.25 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.303307 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 45.36 in  
Total Volume Pumped 8.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	16:44:09	3899.91	21.44	5.43	67.93	0.12	18.91	4.03	84.22
Last 5	16:49:09	4199.91	21.44	5.45	68.00	0.16	18.96	2.69	82.99
Last 5	16:54:09	4499.90	21.49	5.45	67.97	0.26	19.00	2.43	83.53
Last 5	16:59:09	4799.89	21.58	5.45	68.31	0.24	19.02	2.51	83.89
Last 5	17:04:09	5099.88	21.44	5.46	68.23	0.22	19.03	2.47	83.23
Variance 0			0.05	-0.00	-0.03			-0.26	0.54
Variance 1			0.09	-0.00	0.34			0.08	0.35
Variance 2			-0.13	0.02	-0.08			-0.04	-0.65

Notes

Sampled at 1705

Grab Samples

Product Name: Low-Flow System

Date: 2020-03-09 16:57:42

Project Information:

Operator Name L. Coker  
Company Name GEI  
Project Name McIntosh  
Site Name Default Site  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 613179  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter .170 in  
Tubing Length 46 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-11  
Well diameter 2 in  
Well Total Depth 56.63 ft  
Screen Length 10 ft  
Depth to Water 19.11 ft

Pumping Information:

Final Pumping Rate 150 mL/min  
Total System Volume 0.2953174 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 3 in  
Total Volume Pumped 6.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10%	+/- 0.1	+/- 5%	+/- 10%		+/- 0.2	+/- 10%
Last 5	16:32:19	1500.02	22.65	7.55	262.49	0.38	19.35	1.02	43.80
Last 5	16:37:19	1800.03	21.92	7.56	265.51	0.51	19.35	0.74	42.06
Last 5	16:42:19	2100.03	22.30	7.57	265.26	0.63	19.36	0.58	41.81
Last 5	16:47:19	2400.03	22.02	7.58	268.44	0.42	19.37	0.42	39.28
Last 5	16:52:19	2700.03	22.56	7.58	270.69	0.24	19.36	0.37	32.79
Variance 0			0.38	0.01	-0.25			-0.15	-0.25
Variance 1			-0.28	0.02	3.18			-0.16	-2.53
Variance 2			0.53	-0.00	2.25			-0.06	-6.49

Notes

Sampled at 1700

Grab Samples



Product Name: Low-Flow System

Date: 2020-03-10 10:44:31

Project Information:

Operator Name J.Noles  
Company Name GEI  
Project Name AP1  
Site Name McIntosh  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 497259  
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic  
Tubing Type LDPE  
Tubing Diameter 0.17 in  
Tubing Length 48 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-12  
Well diameter 2 in  
Well Total Depth 52.7 ft  
Screen Length 9 ft  
Depth to Water 24.40 ft

Pumping Information:

Final Pumping Rate 100 mL/min  
Total System Volume 0.3042443 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 5.16 in  
Total Volume Pumped 6.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0	+/- 0.1	+/- 5%	+/- 0		+/- 10%	+/- 0
Last 5	10:21:56	2699.96	18.79	7.75	284.39	1.13	24.93	0.16	-23.54
Last 5	10:26:56	2999.96	18.79	7.71	285.67	0.80	24.93	0.14	-52.56
Last 5	10:31:56	3299.96	18.85	7.62	280.60	0.77	24.93	0.13	-70.56
Last 5	10:36:56	3599.96	18.90	7.56	279.19	0.91	24.93	0.13	-77.85
Last 5	10:41:56	3899.96	18.96	7.53	276.24	--	--	0.12	-87.93
Variance 0			0.06	-0.09	-5.07			-0.01	-18.00
Variance 1			0.05	-0.06	-1.41			-0.00	-7.29
Variance 2			0.06	-0.04	-2.95			-0.01	-10.08

Notes

Sampled at 1045

Grab Samples

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-1  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	<u>X</u>	_____	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-2  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	<u>X</u>	_____	_____
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____

7 Corrective actions as needed, by date:  
Rusted steel casing latch, 1 bent bollard

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-3  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>Rusted steel casing latch</u>				
_____				
_____				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-4  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	_____	<u>X</u>
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-5  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	<u>X</u>	_____	_____
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>			
<u>N/A</u>			

Signature and Seal of PE/PG responsible for inspection



## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-6  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-6A  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-7  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-8  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-9  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	_____	_____	<u>X</u>
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____

7 Corrective actions as needed, by date:

Some sediment around edges of pad

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-10  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection



## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-11  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-12  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	<u>X</u>	_____	_____
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>			
<u>N/A</u>			

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-19  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	_____	_____	<u>X</u>
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>			
<u>N/A</u>			

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-20  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-21  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	_____	_____	<u>X</u>
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>			
<u>N/A</u>			

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-22  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection



## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWC-23  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID MGWA-24  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	<u>X</u>	_____	_____
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID PZ-13  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID PZ-14  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID PZ-15  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID PZ-16  
 Date 3/9/2020  
 Reflective Sign Yes

	yes	no	n/a
<b>1 Location/Identification</b>			
a Is the well visible and accessible?	<u>X</u>	_____	_____
b Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>			
a Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>			
a Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>			
a Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>			
a Does well recharge adequately when purged?	_____	_____	<u>X</u>
b If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>			
	<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>			
<u>N/A</u>			

Signature and Seal of PE/PG responsible for inspection



## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID PZ-17  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## Groundwater Monitoring Well Integrity Form

Site Name McIntosh- Ash Pond  
 Permit Number \_\_\_\_\_  
 Well ID PZ-18  
 Date 3/9/2020  
 Reflective Sign Yes

		yes	no	n/a
<b>1 Location/Identification</b>				
a	Is the well visible and accessible?	<u>X</u>	_____	_____
b	Is the well properly identified with the correct well ID?	<u>X</u>	_____	_____
c	Is the well in a high traffic area and does the well require protection from traffic?	_____	<u>X</u>	_____
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	<u>X</u>	_____	_____
<b>2 Protective Casing</b>				
a	Is the protective casing free from apparent damage and able to be secured?	<u>X</u>	_____	_____
b	Is the casing free of degradation or deterioration?	<u>X</u>	_____	_____
c	Does the casing have a functioning weep hole?	<u>X</u>	_____	_____
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	<u>X</u>	_____	_____
e	Is the well locked and is the lock in good condition?	<u>X</u>	_____	_____
<b>3 Surface pad</b>				
a	Is the well pad in good condition (not cracked or broken)?	<u>X</u>	_____	_____
b	Is the well pad sloped away from the protective casing?	<u>X</u>	_____	_____
c	Is the well pad in complete contact with the protective casing?	<u>X</u>	_____	_____
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	<u>X</u>	_____	_____
e	Is the pad surface clean (not covered with sediment or debris)?	<u>X</u>	_____	_____
<b>4 Internal casing</b>				
a	Does the cap prevent entry of foreign material into the well?	<u>X</u>	_____	_____
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	<u>X</u>	_____	_____
c	Is the well properly vented for equilibration of air pressure?	<u>X</u>	_____	_____
d	Is the survey point clearly marked on the inner casing?	<u>X</u>	_____	_____
e	Is the depth of the well consistent with the original well log?	<u>X</u>	_____	_____
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	<u>X</u>	_____	_____
<b>5 Sampling: Groundwater Wells Only:</b>				
a	Does well recharge adequately when purged?	_____	_____	<u>X</u>
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?	_____	_____	<u>X</u>
c	Does the well require redevelopment (low flow, turbid)?	_____	<u>X</u>	_____
<b>6 Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?</b>				
		<u>X</u>	_____	_____
<b>7 Corrective actions as needed, by date:</b>				
<u>N/A</u>				

Signature and Seal of PE/PG responsible for inspection

## APPENDIX B

### Monitoring Well and Piezometer Survey Data

107 Mountain Brook Dr., Ste. 104  
Canton, GA 30115



www.gunninsurvey.com  
678.880.7502

DATE: July 2, 2020

TO: Atlantic Coastal Consulting, Inc  
1150 Northmeadow Parkway  
Suite 100  
Roswell, GA 30076

ATTN: Evan Perry of Atlantic Coastal Consulting

SUBJECT: Plant McIntosh Ash Pond 1: 19 wells / 6 piezometers

The following data has been established on the existing wells using Georgia State Plane East Zone (NAD 83 horizontal and NAVD 88 vertical). Wells were surveyed to the following tolerances: 0.01' vertical and 0.5' horizontal via conventional survey methods, GPS, OPUS processing, and level loops. Each well was cross-checked for horizontal and vertical accuracy.

WELL ID	NORTHING	EASTING	ELEVATION	ELEVATION	ELEVATION
	NAIL	NAIL	NAIL	TOP OF CASE	TOP OF PVC
MGWA-5	855860.82	962763.17	61.42	64.57	64.36
MGWA-6	856527.73	963130.08	58.24	61.22	61.08
MGWA-6A	856520.82	963113.65	56.89	59.90	59.76
MGWA-9	857129.70	963164.58	56.25	59.44	59.29
MGWA-10	855934.25	961406.49	62.05	65.23	65.07
MGWA-11	855985.31	962070.22	62.04	65.11	64.91
MGWA-24	856600.28	962885.22	57.55	60.75	60.53
MGWC-1	856813.23	964287.35	62.20	65.36	65.23
MGWC-2	856400.69	963958.38	45.32	48.72	48.54
MGWC-3	856033.79	963658.28	50.09	52.78	52.65
MGWC-4	855555.05	963139.37	61.05	64.46	64.33
MGWC-7	857417.68	964007.53	51.28	54.55	54.40
MGWC-8	857177.10	964141.67	59.69	62.75	62.61
MGWC-12	855545.67	963110.24	61.24	64.32	64.10
MGWC-19	857406.16	963972.44	50.74	54.13	53.98
MGWC-20	857596.86	964281.59	48.77	51.84	51.56

MGWC-21	857159.04	964155.30	59.89	62.85	62.65
MGWC-22	856381.60	963948.23	45.09	47.73	47.53
MGWC-23	856940.45	964617.96	54.84	57.63	57.47
<b>WELL ID</b>	<b>NORTHING</b>	<b>EASTING</b>	<b>ELEVATION</b>	<b>ELEVATION</b>	<b>ELEVATION</b>
	<b>NAIL</b>	<b>NAIL</b>	<b>NAIL</b>	<b>TOP OF CASE</b>	<b>TOP OF PVC</b>
PZ-13	856123.86	964192.52	38.02	41.11	40.91
PZ-14	855727.20	963895.98	43.99	47.34	47.11
PZ-15	856156.03	964192.45	39.07	42.50	42.37
PZ-16	857077.14	964957.28	51.29	54.85	54.71
PZ-17	857655.05	964525.72	54.07	57.64	57.51
PZ-18	857542.34	963505.91	50.26	53.61	53.48

Sincerely yours,

Gunnin Land Surveying, LLC.



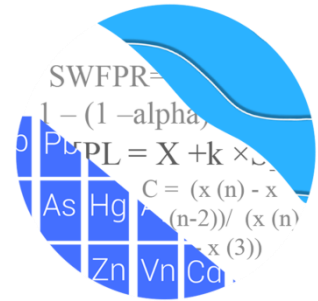
Jesse R. Gunnin, L.S. Principal Surveyor

# APPENDIX C

## Statistical Analyses



# GROUNDWATER STATS CONSULTING



August 26, 2020

Southern Company Services  
Attn: Ms. Kristen Jurinko  
241 Ralph McGill Blvd NE, Bin 10160  
Atlanta, Georgia 30308

Re: Plant McIntosh Ash Pond 1 (AP-1)  
Statistical Analysis March 2020

Dear Ms. Jurinko,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the March 2020 Semi-Annual Groundwater Monitoring and Corrective Action Statistical summary of the analysis of groundwater data for Georgia Power Company's Plant McIntosh AP-1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10, and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling for the Appendix III and IV parameters began in 2016, and at least 8 background samples were collected at each of the groundwater monitoring wells. Sampling is conducted on a semi-annual basis for all constituents. A list of all parameters is provided below.

The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient well:** MGWA-5, MGWA-6, MGWA-6A, MGWA-10, and MGWA-11
- **Downgradient wells:** MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8, and MGWC-12

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed Kristina Rayner, Groundwater Statistician and Founder of Groundwater Stats Consulting.

The CCR program consists of the following constituents:

- **Appendix III** (Detection Monitoring) - boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) – antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228 fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs with 100% nondetects follows this letter. A substitution of the most recent reporting limit is used for nondetect data. Selenium was not detected during the scan event conducted in January 2020 and, therefore, no sampling or statistical analysis was required for this parameter.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. A summary of flagged outliers follows this report (Figure C).

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided with the previous screening to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

The original background screening was conducted in 2017 by MacStat Consulting. Values identified as outliers were flagged in the database and excluded prior to construction of statistical limits. Both intrawell and interwell prediction limits, combined with a 1-of-2

resample plan, were recommended. The Analysis of Variance (ANOVA) is typically used to statistically evaluate differences in average concentrations among upgradient wells, which assists in identifying the most appropriate statistical approach.

Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells would not be conservative from a regulatory perspective; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter. While data were further tested for intrawell eligibility during the screening, interwell methods will be used for all Appendix III constituents in accordance with Georgia EPD requirements.

### **Summary of Statistical Methods – Appendix III Parameters:**

Based on the earlier evaluation described above, the following method was selected:

- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, pH, sulfate, and TDS

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are nondetects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory.

- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. While this was not required for this report, in some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (lower) from a regulatory perspective and capable of rapidly detecting changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

### **Statistical Analysis of Appendix III Parameters – March 2020**

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through March 2020 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance. Several prediction limit exceedances were noted for Appendix III parameters. A summary table of the interwell prediction limits follows this letter.

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure E). Upgradient

wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site which is an indication of natural variability in groundwater unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant increasing trends were noted for the following well/constituent pairs:

- Boron: MGWC-1, MGWC-3, MGWC-7, and MGWC-8
- Sulfate: MGWC-3 and MGWC-8
- TDS: MGWC-8

Statistically significant decreasing trends were noted for the following well/constituent pairs:

- Boron: MGWA-6 (upgradient) and MGWC-2
- Calcium: MGWA-10 (upgradient)
- Chloride: MGWA-5 (upgradient), MGWA-6 (upgradient), MGWC-2, and MGWC-7
- Sulfate: MGWA-6 (upgradient) and MGWC-2
- TDS: MGWC-2

### **Statistical Analysis of Appendix IV Parameters – March 2020**

Interwell tolerance limits were used to calculate the site-specific background limits from pooled upgradient well data for Appendix IV constituents (Figure F). Parametric tolerance limits are used when data follow a normal or transformed-normal distribution such as for combined radium. When data contained greater than 50% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a).

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

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified levels have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

On July 30, 2018, USEPA revised the Federal CCR Rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Georgia EPD has not incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, for sites regulated under Georgia EPD Rules, the GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following the above Georgia EPD Rule requirements and the CCR Rule, State and Federal GWPS were established for statistical comparison of Appendix IV constituents for the March 2020 sample event (Figures G and H, respectively). To complete the statistical comparison to GWPS, State and Federal confidence intervals were constructed for the Appendix IV constituents in accordance with the federal and state requirements in each downgradient well (Figures I and J, respectively). The Sanitas software was used to calculate the tolerance limits and the confidence intervals. The confidence intervals were compared to the GWPS established using the CCR Rules for the Federal requirements and the Georgia EPD Rules 391-3-4-.10(6)(a) for the State requirements. Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. Summaries of the confidence intervals follow this letter. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified.

Federal:

- Cobalt: MGWC-7
- Lithium: MGWC-7

State:

- Cobalt: MGWC-2, MGWC-7, and MGWC-8
- Lithium: MGWC-7



Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Plant McIntosh AP-1. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,



Andrew T. Collins  
Groundwater Analyst



Kristina L. Rayner  
Groundwater Statistician

# 100% Nondetect Well-Constituent Pairs

Date: 5/27/2020 7:34 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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Antimony (mg/L)

MGWA-11, MGWA-6A, MGWC-1, MGWC-2, MGWC-8

Beryllium (mg/L)

MGWA-5, MGWA-6, MGWA-6A, MGWC-12, MGWC-2, MGWC-7

Cadmium (mg/L)

MGWA-11, MGWA-5, MGWA-6, MGWA-6A, MGWC-12, MGWC-3, MGWC-7

Chromium (mg/L)

MGWA-6A

Lead (mg/L)

MGWA-10, MGWA-6, MGWA-6A, MGWC-1, MGWC-2, MGWC-3, MGWC-8

Mercury (mg/L)

MGWA-10, MGWA-5, MGWA-6A, MGWC-1

Molybdenum (mg/L)

MGWA-6, MGWC-2, MGWC-3

Selenium (mg/L)

MGWA-5, MGWA-6, MGWA-6A

Thallium (mg/L)

MGWA-6A, MGWC-7

# Outlier Summary

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:31 PM

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MGWC-12 pH (SU)

9/10/2019

10.96 (o)

# Appendix III Interwell Prediction Limits - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:47 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MGWC-1	0.18	n/a	3/10/2020	1.9	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-2	0.18	n/a	3/10/2020	2.3	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-3	0.18	n/a	3/10/2020	1.3	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-7	0.18	n/a	3/10/2020	1.4	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-8	0.18	n/a	3/10/2020	4	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MGWC-1	110	n/a	3/10/2020	120	Yes	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Chloride (mg/L)	MGWC-1	9.6	n/a	3/10/2020	14	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-2	9.6	n/a	3/10/2020	12	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-3	9.6	n/a	3/10/2020	15	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-7	9.6	n/a	3/10/2020	10	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-8	9.6	n/a	3/10/2020	12	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-1	25	n/a	3/10/2020	140	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-2	25	n/a	3/10/2020	170	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-3	25	n/a	3/10/2020	130	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-7	25	n/a	3/10/2020	170	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-8	25	n/a	3/10/2020	370	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-1	340	n/a	3/10/2020	450	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-2	340	n/a	3/10/2020	540	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-3	340	n/a	3/10/2020	390	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-7	340	n/a	3/10/2020	370	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-8	340	n/a	3/10/2020	600	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	

# Appendix III Interwell Prediction Limits - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:47 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>Boron (mg/L)</b>	<b>MGWC-1</b>	<b>0.18</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>1.9</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>55</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (NDs) 1 of 2</b>
Boron (mg/L)	MGWC-12	0.18	n/a	3/10/2020	0.08ND	No	60	n/a	n/a	n/a	55	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
<b>Boron (mg/L)</b>	<b>MGWC-2</b>	<b>0.18</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>2.3</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>55</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (NDs) 1 of 2</b>
Boron (mg/L)	MGWC-3	0.18	n/a	3/10/2020	1.3	Yes	60	n/a	n/a	n/a	55	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
<b>Boron (mg/L)</b>	<b>MGWC-7</b>	<b>0.18</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>1.4</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>55</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (NDs) 1 of 2</b>
Boron (mg/L)	MGWC-8	0.18	n/a	3/10/2020	4	Yes	60	n/a	n/a	n/a	55	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
<b>Calcium (mg/L)</b>	<b>MGWC-1</b>	<b>110</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>120</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	MGWC-12	110	n/a	3/10/2020	30	No	60	n/a	n/a	n/a	0	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-2	110	n/a	3/10/2020	110	No	60	n/a	n/a	n/a	0	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-3	110	n/a	3/10/2020	110	No	60	n/a	n/a	n/a	0	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-7	110	n/a	3/10/2020	55	No	60	n/a	n/a	n/a	0	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-8	110	n/a	3/10/2020	100	No	60	n/a	n/a	n/a	0	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
<b>Chloride (mg/L)</b>	<b>MGWC-1</b>	<b>9.6</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>14</b>	<b>Yes</b>	<b>60</b>	<b>6.096</b>	<b>1.852</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
Chloride (mg/L)	MGWC-12	9.6	n/a	3/10/2020	4.1	No	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
<b>Chloride (mg/L)</b>	<b>MGWC-2</b>	<b>9.6</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>12</b>	<b>Yes</b>	<b>60</b>	<b>6.096</b>	<b>1.852</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
Chloride (mg/L)	MGWC-3	9.6	n/a	3/10/2020	15	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
<b>Chloride (mg/L)</b>	<b>MGWC-7</b>	<b>9.6</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>10</b>	<b>Yes</b>	<b>60</b>	<b>6.096</b>	<b>1.852</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
Chloride (mg/L)	MGWC-8	9.6	n/a	3/10/2020	12	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Fluoride (mg/L)	MGWC-1	0.19	n/a	3/10/2020	0.086	No	64	n/a	n/a	n/a	34.38	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-12	0.19	n/a	3/10/2020	0.15	No	64	n/a	n/a	n/a	34.38	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-2	0.19	n/a	3/10/2020	0.05	No	64	n/a	n/a	n/a	34.38	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-3	0.19	n/a	3/10/2020	0.058	No	64	n/a	n/a	n/a	34.38	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-7	0.19	n/a	3/10/2020	0.18	No	64	n/a	n/a	n/a	34.38	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-8	0.19	n/a	3/10/2020	0.084	No	64	n/a	n/a	n/a	34.38	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
pH (SU)	MGWC-1	8.0	5.3	3/10/2020	7.11	No	73	n/a	n/a	n/a	0	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-12	8.0	5.3	3/10/2020	7.53	No	73	n/a	n/a	n/a	0	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-2	8.0	5.3	3/10/2020	7.3	No	73	n/a	n/a	n/a	0	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-3	8.0	5.3	3/10/2020	6.87	No	73	n/a	n/a	n/a	0	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-7	8.0	5.3	3/10/2020	6.54	No	73	n/a	n/a	n/a	0	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-8	8.0	5.3	3/10/2020	5.5	No	73	n/a	n/a	n/a	0	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>MGWC-1</b>	<b>25</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>140</b>	<b>Yes</b>	<b>60</b>	<b>1.129</b>	<b>1.109</b>	<b>13.33</b>	<b>None</b>	<b>In(x)</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
Sulfate (mg/L)	MGWC-12	25	n/a	3/10/2020	7.8	No	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
<b>Sulfate (mg/L)</b>	<b>MGWC-2</b>	<b>25</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>170</b>	<b>Yes</b>	<b>60</b>	<b>1.129</b>	<b>1.109</b>	<b>13.33</b>	<b>None</b>	<b>In(x)</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
Sulfate (mg/L)	MGWC-3	25	n/a	3/10/2020	130	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
<b>Sulfate (mg/L)</b>	<b>MGWC-7</b>	<b>25</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>170</b>	<b>Yes</b>	<b>60</b>	<b>1.129</b>	<b>1.109</b>	<b>13.33</b>	<b>None</b>	<b>In(x)</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
Sulfate (mg/L)	MGWC-8	25	n/a	3/10/2020	370	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
<b>TDS (mg/L)</b>	<b>MGWC-1</b>	<b>340</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>450</b>	<b>Yes</b>	<b>60</b>	<b>176.6</b>	<b>89.2</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
TDS (mg/L)	MGWC-12	340	n/a	3/10/2020	170	No	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
<b>TDS (mg/L)</b>	<b>MGWC-2</b>	<b>340</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>540</b>	<b>Yes</b>	<b>60</b>	<b>176.6</b>	<b>89.2</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
TDS (mg/L)	MGWC-3	340	n/a	3/10/2020	390	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
<b>TDS (mg/L)</b>	<b>MGWC-7</b>	<b>340</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>370</b>	<b>Yes</b>	<b>60</b>	<b>176.6</b>	<b>89.2</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>	
TDS (mg/L)	MGWC-8	340	n/a	3/10/2020	600	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	

# Appendix III Trend Tests - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:52 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MGWA-6 (bg)	-0.02855	-63	-44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-1	0.2412	48	44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-2	-0.3306	-46	-44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-3	0.201	45	44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-7	0.07557	60	44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-8	1.394	63	44	Yes	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-10 (bg)	-0.7439	-60	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-5 (bg)	-0.3936	-58	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-6 (bg)	-1.324	-70	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWC-2	-2.296	-84	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWC-7	-0.8063	-64	-44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-6 (bg)	-4.202	-71	-44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-2	-34.14	-78	-44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-3	7.185	60	44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-8	90.35	68	44	Yes	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-2	-48.03	-67	-44	Yes	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-8	114.5	58	44	Yes	14	0	n/a	n/a	0.02	NP



# Appendix III Trend Tests - All Results

Plant McIntosh    Client: Southern Company    Data: McIntosh Ash Pond    Printed 5/26/2020, 4:52 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MGWA-10 (bg)	0	20	44	No	14	57.14	n/a	n/a	0.02	NP
Boron (mg/L)	MGWA-11 (bg)	0	32	44	No	14	71.43	n/a	n/a	0.02	NP
Boron (mg/L)	MGWA-5 (bg)	0	21	44	No	14	85.71	n/a	n/a	0.02	NP
<b>Boron (mg/L)</b>	<b>MGWA-6 (bg)</b>	<b>-0.02855</b>	<b>-63</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Boron (mg/L)	MGWA-6A (bg)	0	-1	-8	No	4	75	n/a	n/a	0.02	NP
<b>Boron (mg/L)</b>	<b>MGWC-1</b>	<b>0.2412</b>	<b>48</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-2</b>	<b>-0.3306</b>	<b>-46</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-3</b>	<b>0.201</b>	<b>45</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-7</b>	<b>0.07557</b>	<b>60</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-8</b>	<b>1.394</b>	<b>63</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Calcium (mg/L)</b>	<b>MGWA-10 (bg)</b>	<b>-0.7439</b>	<b>-60</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Calcium (mg/L)	MGWA-11 (bg)	-0.8057	-17	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-5 (bg)	0	-2	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-6 (bg)	0	20	44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-6A (bg)	-5.532	-2	-8	No	4	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWC-1	5.325	31	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-10 (bg)	-0.0804	-19	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-11 (bg)	-0.05739	-8	-44	No	14	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MGWA-5 (bg)</b>	<b>-0.3936</b>	<b>-58</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Chloride (mg/L)</b>	<b>MGWA-6 (bg)</b>	<b>-1.324</b>	<b>-70</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MGWA-6A (bg)	-0.4452	-6	-8	No	4	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWC-1	0	-24	-44	No	14	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MGWC-2</b>	<b>-2.296</b>	<b>-84</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MGWC-3	0.3017	36	44	No	14	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MGWC-7</b>	<b>-0.8063</b>	<b>-64</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MGWC-8	0.3935	33	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-10 (bg)	-0.4642	-41	-44	No	14	14.29	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-11 (bg)	0.3617	30	44	No	14	42.86	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-5 (bg)	-0.8789	-40	-44	No	14	0	n/a	n/a	0.02	NP
<b>Sulfate (mg/L)</b>	<b>MGWA-6 (bg)</b>	<b>-4.202</b>	<b>-71</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Sulfate (mg/L)	MGWA-6A (bg)	-3.4	-2	-8	No	4	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-1	5.48	25	44	No	14	0	n/a	n/a	0.02	NP
<b>Sulfate (mg/L)</b>	<b>MGWC-2</b>	<b>-34.14</b>	<b>-78</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Sulfate (mg/L)</b>	<b>MGWC-3</b>	<b>7.185</b>	<b>60</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Sulfate (mg/L)	MGWC-7	3.621	36	44	No	14	0	n/a	n/a	0.02	NP
<b>Sulfate (mg/L)</b>	<b>MGWC-8</b>	<b>90.35</b>	<b>68</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
TDS (mg/L)	MGWA-10 (bg)	-7.28	-28	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-11 (bg)	0	-6	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-5 (bg)	4.65	11	44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-6 (bg)	-3.179	-12	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-6A (bg)	-30.59	-2	-8	No	4	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-1	0	5	44	No	14	0	n/a	n/a	0.02	NP
<b>TDS (mg/L)</b>	<b>MGWC-2</b>	<b>-48.03</b>	<b>-67</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
TDS (mg/L)	MGWC-3	-6.612	-19	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-7	0	-2	-44	No	14	0	n/a	n/a	0.02	NP
<b>TDS (mg/L)</b>	<b>MGWC-8</b>	<b>114.5</b>	<b>58</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>

# Tolerance Limit Summary Table

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:54 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.0020	n/a	n/a	n/a	n/a	51	n/a	n/a	92.16	n/a	n/a	0.0731	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.035	n/a	n/a	n/a	n/a	69	n/a	n/a	36.23	n/a	n/a	0.02904	NP Inter(normality)
Barium (mg/L)	n/a	0.13	n/a	n/a	n/a	n/a	69	n/a	n/a	0	n/a	n/a	0.02904	NP Inter(normality)
Beryllium (mg/L)	n/a	0.0025	n/a	n/a	n/a	n/a	59	n/a	n/a	93.22	n/a	n/a	0.04849	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.0025	n/a	n/a	n/a	n/a	69	n/a	n/a	98.55	n/a	n/a	0.02904	NP Inter(NDs)
Chromium (mg/L)	n/a	0.0063	n/a	n/a	n/a	n/a	59	n/a	n/a	67.8	n/a	n/a	0.04849	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.0025	n/a	n/a	n/a	n/a	69	n/a	n/a	75.36	n/a	n/a	0.02904	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	1.1	n/a	n/a	n/a	n/a	69	0.5336	0.287	0	None	No	0.05	Inter
Fluoride (mg/L)	n/a	0.19	n/a	n/a	n/a	n/a	64	n/a	n/a	34.38	n/a	n/a	0.03752	NP Inter(normality)
Lead (mg/L)	n/a	0.0010	n/a	n/a	n/a	n/a	51	n/a	n/a	94.12	n/a	n/a	0.0731	NP Inter(NDs)
Lithium (mg/L)	n/a	0.030	n/a	n/a	n/a	n/a	69	n/a	n/a	27.54	n/a	n/a	0.02904	NP Inter(normality)
Mercury (mg/L)	n/a	0.00020	n/a	n/a	n/a	n/a	59	n/a	n/a	94.92	n/a	n/a	0.04849	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.015	n/a	n/a	n/a	n/a	59	n/a	n/a	69.49	n/a	n/a	0.04849	NP Inter(NDs)
Selenium (mg/L)	n/a	0.0050	n/a	n/a	n/a	n/a	54	n/a	n/a	88.89	n/a	n/a	0.06267	NP Inter(NDs)
Thallium (mg/L)	n/a	0.0010	n/a	n/a	n/a	n/a	59	n/a	n/a	88.14	n/a	n/a	0.04849	NP Inter(NDs)

<b>PLANT MCINTOSH AP 1 GWPS - FEDERAL</b>				
<b>Constituent Name</b>	<b>MCL</b>	<b>CCR-Rule Specified</b>	<b>Background Limit</b>	<b>GWPS</b>
Antimony, Total (mg/L)	0.006		0.002	0.006
Arsenic, Total (mg/L)	0.01		0.035	0.035
Barium, Total (mg/L)	2		0.13	2
Beryllium, Total (mg/L)	0.004		0.0025	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.0063	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.0025	0.006
Combined Radium, Total (pCi/L)	5		1.1	5
Fluoride, Total (mg/L)	4		0.19	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.015	0.1
Selenium, Total (mg/L)	0.05		0.005	0.005
Thallium, Total (mg/L)	0.002		0.001	0.002

*\*Grey cell indicates background is higher than MCL or CCR-Rule*

*\*MCL = Maximum Contaminant Level*

<b>PLANT MCINTOSH AP 1 GWPS - STATE</b>				
<b>Constituent Name</b>	<b>MCL</b>	<b>CCR-Rule Specified</b>	<b>Background Limit</b>	<b>GWPS</b>
Antimony, Total (mg/L)	0.006		0.002	0.006
Arsenic, Total (mg/L)	0.01		0.035	0.035
Barium, Total (mg/L)	2		0.13	2
Beryllium, Total (mg/L)	0.004		0.0025	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.0063	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.0025	0.0025
Combined Radium, Total (pCi/L)	5		1.1	5
Fluoride, Total (mg/L)	4		0.19	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.001
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.015	0.015
Selenium, Total (mg/L)	0.05		0.005	0.005
Thallium, Total (mg/L)	0.002		0.001	0.002

*\*Grey cell indicates background is higher than MCL or CCR-Rule*

*\*MCL = Maximum Contaminant Level*

# Federal Confidence Intervals - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:58 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
<b>Cobalt (mg/L)</b>	<b>MGWC-7</b>	<b>0.0107</b>	<b>0.008314</b>	<b>0.006</b>	<b>Yes 16</b>	<b>0.009375</b>	<b>0.002034</b>	<b>0</b>	<b>None</b>	<b>x^2</b>	<b>0.01</b>	<b>Param.</b>
<b>Lithium (mg/L)</b>	<b>MGWC-7</b>	<b>0.13</b>	<b>0.11</b>	<b>0.04</b>	<b>Yes 16</b>	<b>0.1208</b>	<b>0.02225</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>

# Federal Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:58 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MGWC-12	0.002	0.0004	0.006	No	12	0.001867	0.0004619	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-3	0.002	0.0003	0.006	No	12	0.001858	0.0004907	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-7	0.002	0.00197	0.006	No	12	0.001998	0.00000866	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-1	0.003041	0.002155	0.035	No	16	0.002621	0.0007343	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.0019	0.00053	0.035	No	16	0.001732	0.001673	18.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-2	0.005	0.00065	0.035	No	16	0.003881	0.002004	75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.0018	0.0013	0.035	No	16	0.001721	0.000926	6.25	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-7	0.005	0.00066	0.035	No	16	0.002664	0.00214	43.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-8	0.005	0.00059	0.035	No	16	0.004164	0.001798	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	MGWC-1	0.12	0.095	2	No	16	0.1071	0.01877	0	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-12	0.06203	0.04733	2	No	16	0.05468	0.01129	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05588	0.0498	2	No	16	0.05284	0.004671	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1519	0.136	2	No	16	0.1439	0.0122	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.015	0.0098	2	No	16	0.01324	0.007627	6.25	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-8	0.03769	0.03386	2	No	16	0.03578	0.00294	0	None	No	0.01	Param.
Beryllium (mg/L)	MGWC-1	0.013	0.00018	0.004	No	14	0.01208	0.003426	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.013	0.00031	0.004	No	14	0.01209	0.003392	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.0019	0.00049	0.004	No	14	0.002679	0.004398	14.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	MGWC-1	0.013	0.0005	0.005	No	16	0.01061	0.005134	81.25	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.003546	0.001353	0.005	No	16	0.002607	0.001997	0	None	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-8	0.013	0.00044	0.005	No	16	0.005282	0.006178	37.5	None	No	0.01	NP (normality)
Chromium (mg/L)	MGWC-1	0.0036	0.002	0.1	No	14	0.002114	0.0004276	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-12	0.0032	0.002	0.1	No	14	0.002086	0.0003207	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-2	0.0033	0.002	0.1	No	14	0.002093	0.0003474	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-3	0.003	0.002	0.1	No	14	0.002071	0.0002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-7	0.0034	0.0015	0.1	No	14	0.002064	0.0004069	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-8	0.0031	0.002	0.1	No	14	0.002079	0.000294	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-1	0.0025	0.0004	0.006	No	16	0.001765	0.0009996	62.5	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-12	0.0025	0.00016	0.006	No	16	0.002354	0.000585	93.75	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-2	0.00349	0.002952	0.006	No	16	0.003221	0.0004134	0	None	No	0.01	Param.
Cobalt (mg/L)	MGWC-3	0.00068	0.0005	0.006	No	16	0.0009387	0.0007782	18.75	None	No	0.01	NP (normality)
<b>Cobalt (mg/L)</b>	<b>MGWC-7</b>	<b>0.0107</b>	<b>0.008314</b>	<b>0.006</b>	<b>Yes</b>	<b>16</b>	<b>0.009375</b>	<b>0.002034</b>	<b>0</b>	<b>None</b>	<b>x^2</b>	<b>0.01</b>	<b>Param.</b>
Cobalt (mg/L)	MGWC-8	0.019	0.0038	0.006	No	16	0.01121	0.007422	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.64	1.08	5	No	16	1.327	0.3151	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.6982	0.3727	5	No	16	0.5354	0.2501	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.726	0.4138	5	No	16	0.5699	0.24	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.641	1.369	5	No	16	1.505	0.2091	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.309	0.8683	5	No	16	1.089	0.339	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	2.009	1.423	5	No	16	1.716	0.45	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-1	0.2569	0.1556	4	No	15	0.2063	0.07479	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.258	0.2006	4	No	15	0.2293	0.04234	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.2	0.076	4	No	15	0.1464	0.06142	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-3	0.2	0.073	4	No	15	0.1416	0.06414	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-7	0.3654	0.2204	4	No	15	0.2929	0.107	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.2	0.088	4	No	15	0.1245	0.04492	20	None	No	0.01	NP (normality)
Lead (mg/L)	MGWC-12	0.001	0.0001	0.015	No	12	0.000925	0.0002598	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MGWC-7	0.001	0.0003	0.015	No	12	0.0009417	0.0002021	91.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01278	0.01041	0.04	No	16	0.01163	0.001897	6.25	None	sqrt(x)	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02189	0.01478	0.04	No	16	0.01834	0.005465	0	None	No	0.01	Param.
Lithium (mg/L)	MGWC-2	0.0074	0.0047	0.04	No	16	0.006061	0.002012	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	MGWC-3	0.01368	0.01097	0.04	No	16	0.01233	0.002076	0	None	No	0.01	Param.
<b>Lithium (mg/L)</b>	<b>MGWC-7</b>	<b>0.13</b>	<b>0.11</b>	<b>0.04</b>	<b>Yes</b>	<b>16</b>	<b>0.1208</b>	<b>0.02225</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Lithium (mg/L)	MGWC-8	0.04014	0.02762	0.04	No	16	0.03388	0.009623	0	None	No	0.01	Param.
Mercury (mg/L)	MGWC-12	0.0002	0.000086	0.002	No	14	0.0001829	0.00004364	85.71	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0002	0.0001	0.002	No	14	0.0001841	0.00004054	85.71	None	No	0.01	NP (NDs)



# Federal Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:58 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Mercury (mg/L)	MGWC-3	0.0002	0.00007	0.002	No 14	0.0001907	0.00003474	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0002	0.00008	0.002	No 14	0.0001914	0.00003207	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.00012	0.002	No 14	0.0002097	0.0001581	42.86	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-1	0.015	0.0012	0.1	No 14	0.005391	0.006316	28.57	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.015	0.002	0.1	No 14	0.01211	0.005737	78.57	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.015	0.00351	0.1	No 14	0.01418	0.003071	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.015	0.0037	0.1	No 14	0.01419	0.00302	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-1	0.001	0.00014	0.002	No 14	0.0007604	0.0003966	71.43	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-12	0.001	0.00015	0.002	No 14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-2	0.001	0.00021	0.002	No 14	0.0009436	0.0002111	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-3	0.001	0.00037	0.002	No 14	0.000895	0.0002701	85.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-8	0.0004022	0.0001433	0.002	No 14	0.00032	0.0003001	14.29	None	In(x)	0.01	Param.

# State Confidence Intervals - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:41 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Cobalt (mg/L)	MGWC-2	0.00349	0.002952	0.0025	Yes 16	0.003221	0.0004134	0	None	No	0.01	Param.
Cobalt (mg/L)	MGWC-7	0.0107	0.008314	0.0025	Yes 16	0.009375	0.002034	0	None	x^2	0.01	Param.
Cobalt (mg/L)	MGWC-8	0.019	0.0038	0.0025	Yes 16	0.01121	0.007422	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MGWC-7	0.13	0.11	0.03	Yes 16	0.1208	0.02225	0	None	No	0.01	NP (normality)

# State Confidence Intervals - All Results

Plant McIntosh    Client: Southern Company    Data: McIntosh Ash Pond    Printed 5/28/2020, 9:41 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MGWC-12	0.002	0.0004	0.006	No	12	0.001867	0.0004619	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-3	0.002	0.0003	0.006	No	12	0.001858	0.0004907	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-7	0.002	0.00197	0.006	No	12	0.001998	0.00000866	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-1	0.003041	0.002155	0.035	No	16	0.002621	0.0007343	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.0019	0.00053	0.035	No	16	0.001732	0.001673	18.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-2	0.005	0.00065	0.035	No	16	0.003881	0.002004	75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.0018	0.0013	0.035	No	16	0.001721	0.000926	6.25	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-7	0.005	0.00066	0.035	No	16	0.002664	0.00214	43.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-8	0.005	0.00059	0.035	No	16	0.004164	0.001798	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	MGWC-1	0.12	0.095	2	No	16	0.1071	0.01877	0	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-12	0.06203	0.04733	2	No	16	0.05468	0.01129	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05588	0.0498	2	No	16	0.05284	0.004671	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1519	0.136	2	No	16	0.1439	0.0122	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.015	0.0098	2	No	16	0.01324	0.007627	6.25	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-8	0.03769	0.03386	2	No	16	0.03578	0.00294	0	None	No	0.01	Param.
Beryllium (mg/L)	MGWC-1	0.013	0.00018	0.004	No	14	0.01208	0.003426	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.013	0.00031	0.004	No	14	0.01209	0.003392	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.0019	0.00049	0.004	No	14	0.002679	0.004398	14.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	MGWC-1	0.013	0.0005	0.005	No	16	0.01061	0.005134	81.25	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.003546	0.001353	0.005	No	16	0.002607	0.001997	0	None	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-8	0.013	0.00044	0.005	No	16	0.005282	0.006178	37.5	None	No	0.01	NP (normality)
Chromium (mg/L)	MGWC-1	0.0036	0.002	0.1	No	14	0.002114	0.0004276	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-12	0.0032	0.002	0.1	No	14	0.002086	0.0003207	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-2	0.0033	0.002	0.1	No	14	0.002093	0.0003474	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-3	0.003	0.002	0.1	No	14	0.002071	0.0002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-7	0.0034	0.0015	0.1	No	14	0.002064	0.0004069	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-8	0.0031	0.002	0.1	No	14	0.002079	0.000294	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-1	0.0025	0.0004	0.0025	No	16	0.001765	0.0009996	62.5	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-12	0.0025	0.00016	0.0025	No	16	0.002354	0.000585	93.75	None	No	0.01	NP (NDs)
<b>Cobalt (mg/L)</b>	<b>MGWC-2</b>	<b>0.00349</b>	<b>0.002952</b>	<b>0.0025</b>	<b>Yes</b>	<b>16</b>	<b>0.003221</b>	<b>0.0004134</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Cobalt (mg/L)	MGWC-3	0.00068	0.0005	0.0025	No	16	0.0009387	0.0007782	18.75	None	No	0.01	NP (normality)
<b>Cobalt (mg/L)</b>	<b>MGWC-7</b>	<b>0.0107</b>	<b>0.008314</b>	<b>0.0025</b>	<b>Yes</b>	<b>16</b>	<b>0.009375</b>	<b>0.002034</b>	<b>0</b>	<b>None</b>	<b>x^2</b>	<b>0.01</b>	<b>Param.</b>
<b>Cobalt (mg/L)</b>	<b>MGWC-8</b>	<b>0.019</b>	<b>0.0038</b>	<b>0.0025</b>	<b>Yes</b>	<b>16</b>	<b>0.01121</b>	<b>0.007422</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.64	1.08	5	No	16	1.327	0.3151	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.6982	0.3727	5	No	16	0.5354	0.2501	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.726	0.4138	5	No	16	0.5699	0.24	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.641	1.369	5	No	16	1.505	0.2091	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.309	0.8683	5	No	16	1.089	0.339	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	2.009	1.423	5	No	16	1.716	0.45	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-1	0.2569	0.1556	4	No	15	0.2063	0.07479	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.258	0.2006	4	No	15	0.2293	0.04234	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.2	0.076	4	No	15	0.1464	0.06142	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-3	0.2	0.073	4	No	15	0.1416	0.06414	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-7	0.3654	0.2204	4	No	15	0.2929	0.107	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.2	0.088	4	No	15	0.1245	0.04492	20	None	No	0.01	NP (normality)
Lead (mg/L)	MGWC-12	0.001	0.0001	0.001	No	12	0.000925	0.0002598	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MGWC-7	0.001	0.0003	0.001	No	12	0.0009417	0.0002021	91.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01278	0.01041	0.03	No	16	0.01163	0.001897	6.25	None	sqrt(x)	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02189	0.01478	0.03	No	16	0.01834	0.005465	0	None	No	0.01	Param.
Lithium (mg/L)	MGWC-2	0.0074	0.0047	0.03	No	16	0.006061	0.002012	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	MGWC-3	0.01368	0.01097	0.03	No	16	0.01233	0.002076	0	None	No	0.01	Param.
<b>Lithium (mg/L)</b>	<b>MGWC-7</b>	<b>0.13</b>	<b>0.11</b>	<b>0.03</b>	<b>Yes</b>	<b>16</b>	<b>0.1208</b>	<b>0.02225</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Lithium (mg/L)	MGWC-8	0.04014	0.02762	0.03	No	16	0.03388	0.009623	0	None	No	0.01	Param.
Mercury (mg/L)	MGWC-12	0.0002	0.000086	0.002	No	14	0.0001829	0.00004364	85.71	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0002	0.0001	0.002	No	14	0.0001841	0.00004054	85.71	None	No	0.01	NP (NDs)

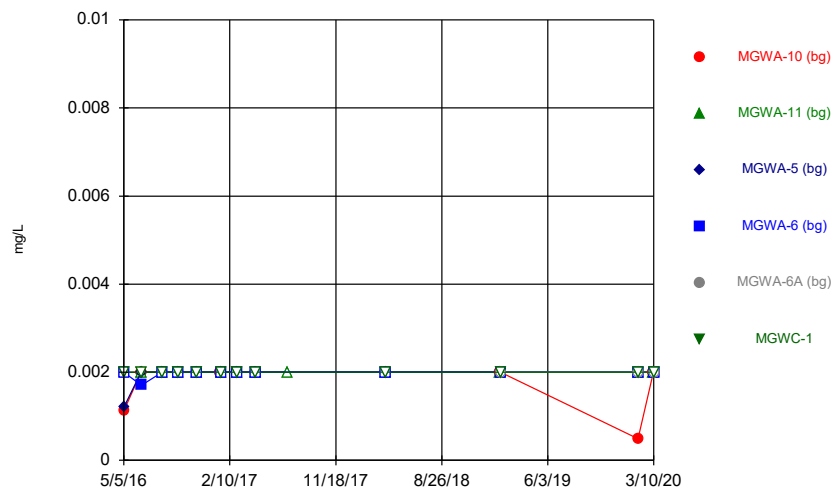
# State Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:41 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Mercury (mg/L)	MGWC-3	0.0002	0.00007	0.002	No 14	0.0001907	0.00003474	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0002	0.00008	0.002	No 14	0.0001914	0.00003207	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.00012	0.002	No 14	0.0002097	0.0001581	42.86	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-1	0.015	0.0012	0.015	No 14	0.005391	0.006316	28.57	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.015	0.002	0.015	No 14	0.01211	0.005737	78.57	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.015	0.00351	0.015	No 14	0.01418	0.003071	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.015	0.0037	0.015	No 14	0.01419	0.00302	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-1	0.001	0.00014	0.002	No 14	0.0007604	0.0003966	71.43	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-12	0.001	0.00015	0.002	No 14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-2	0.001	0.00021	0.002	No 14	0.0009436	0.0002111	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-3	0.001	0.00037	0.002	No 14	0.000895	0.0002701	85.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-8	0.0004022	0.0001433	0.002	No 14	0.00032	0.0003001	14.29	None	In(x)	0.01	Param.

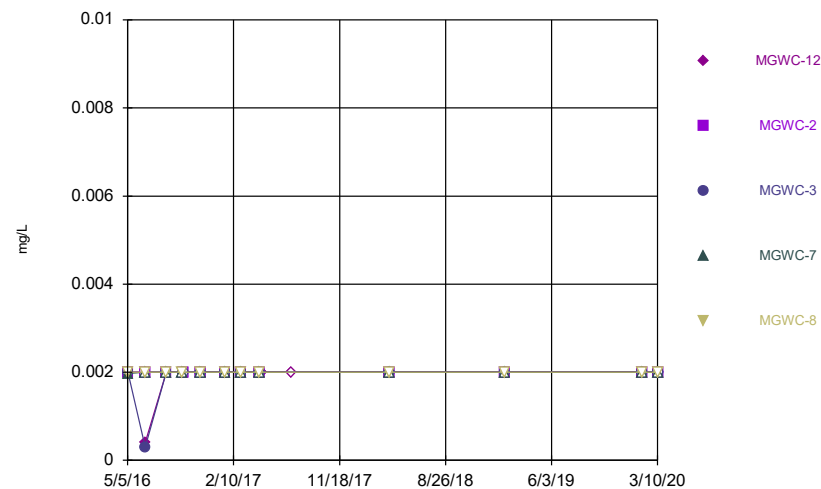
FIGURE A.

Time Series



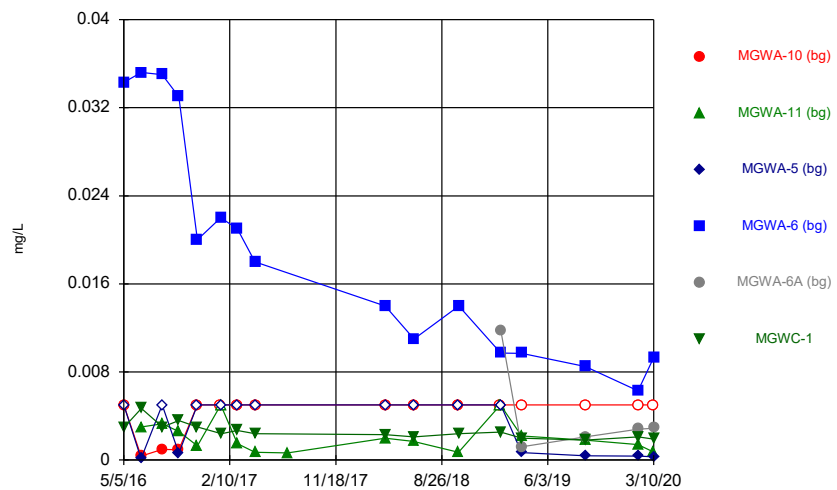
Constituent: Antimony Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



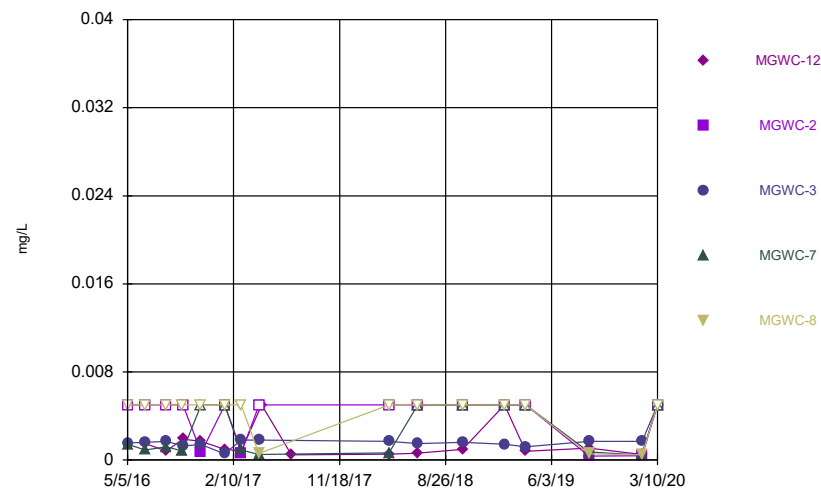
Constituent: Antimony Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



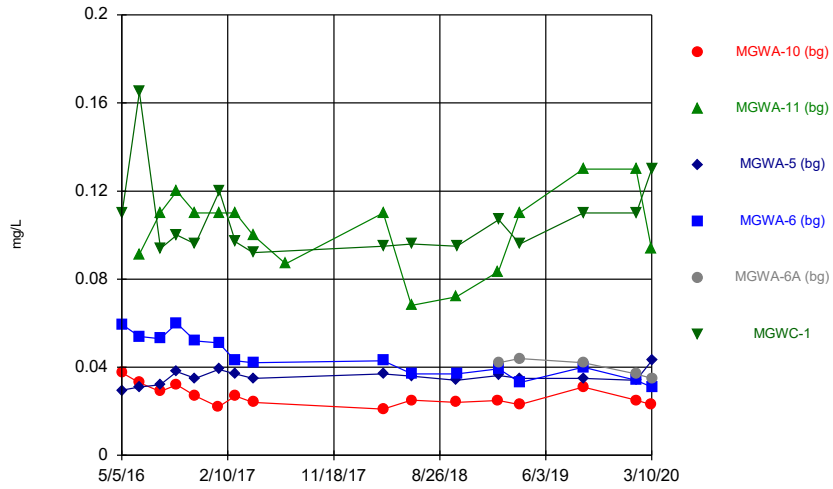
Constituent: Arsenic Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



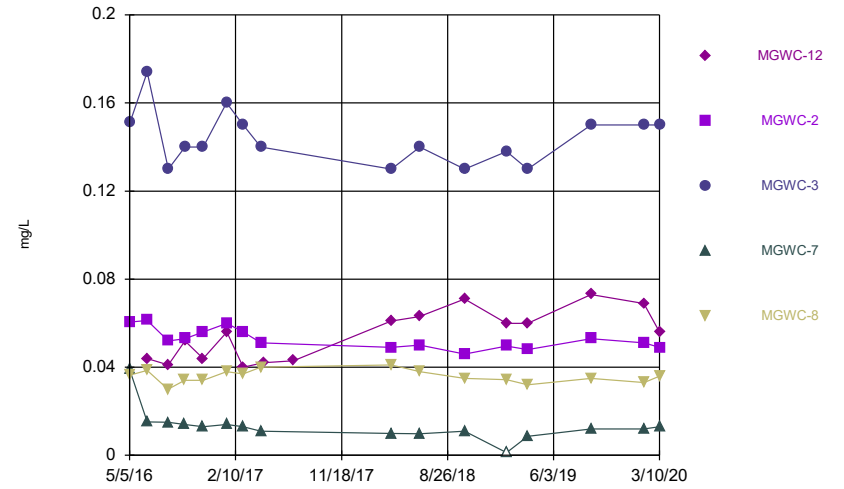
Constituent: Arsenic Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



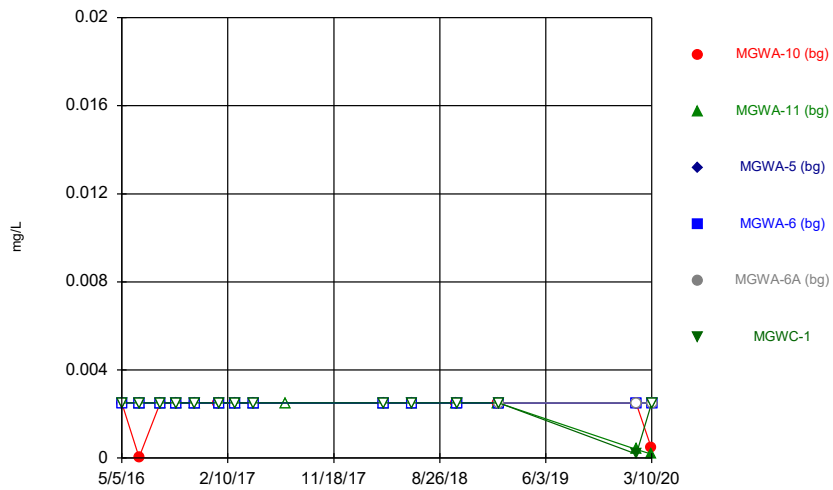
Hollow symbols indicate censored values.

Time Series



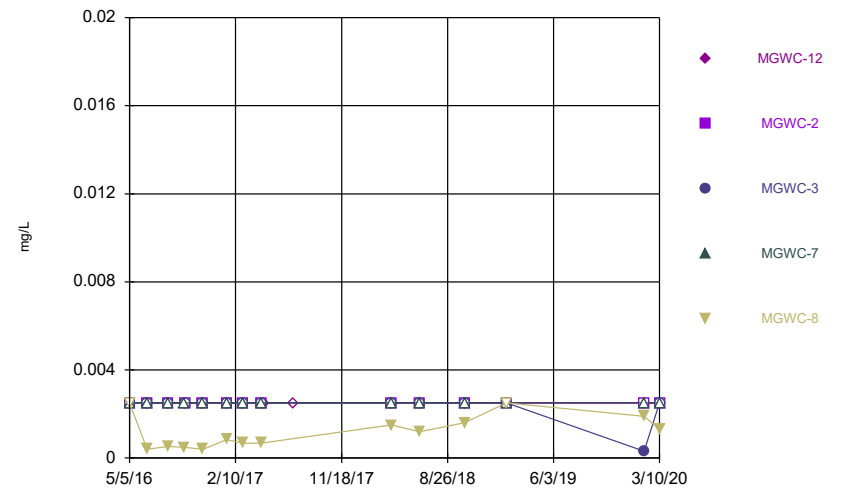
Hollow symbols indicate censored values.

Time Series



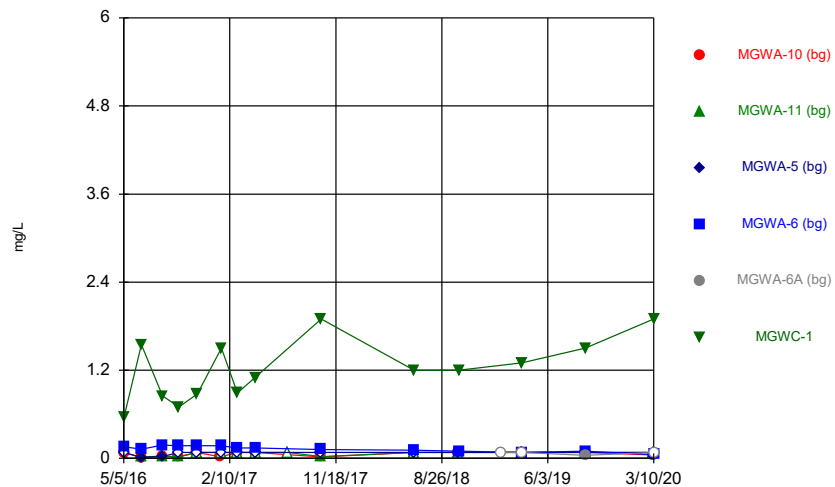
Hollow symbols indicate censored values.

Time Series



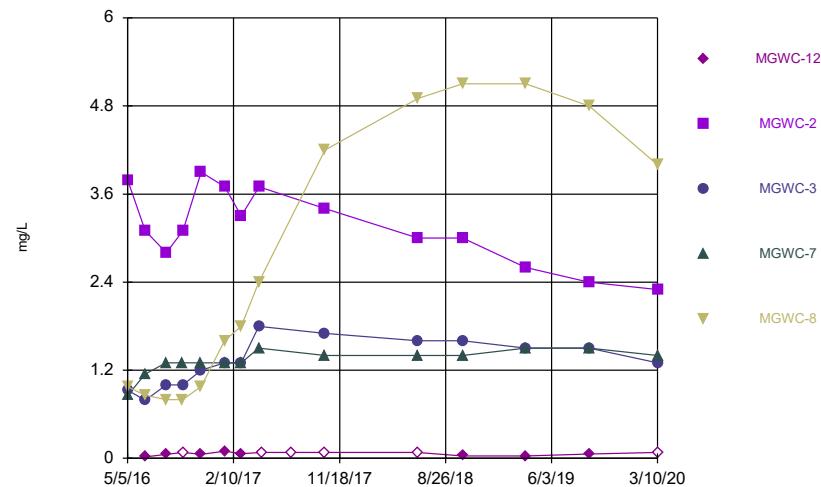


Time Series



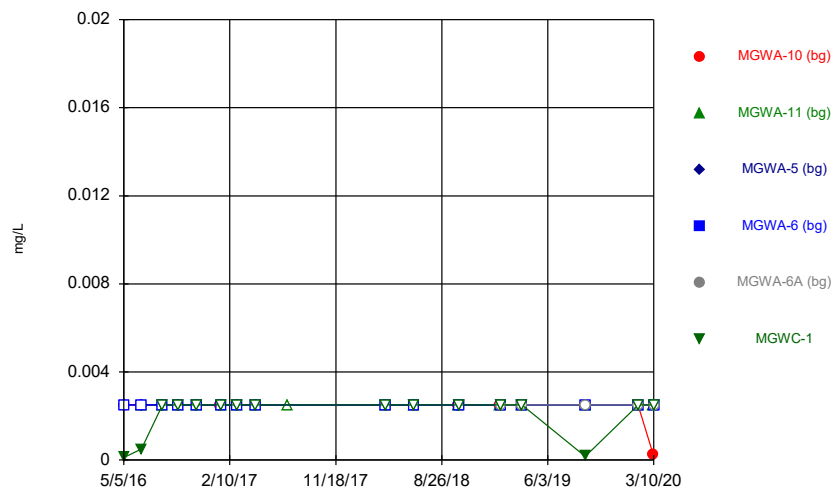
Constituent: Boron Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



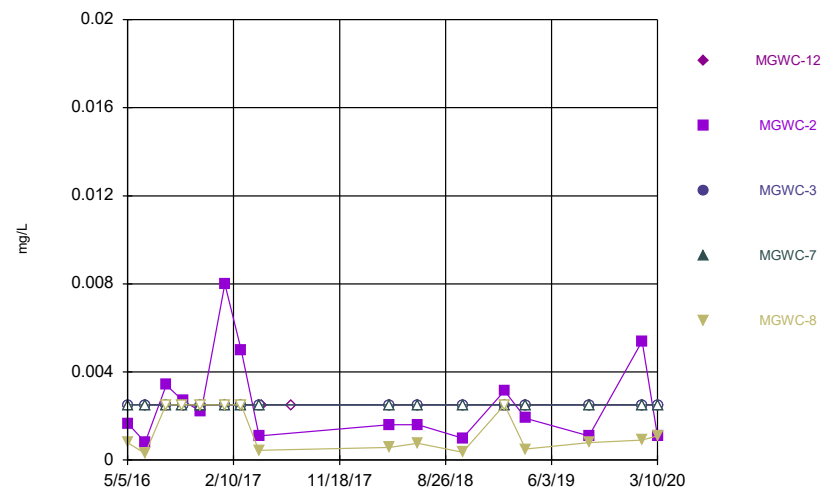
Constituent: Boron Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



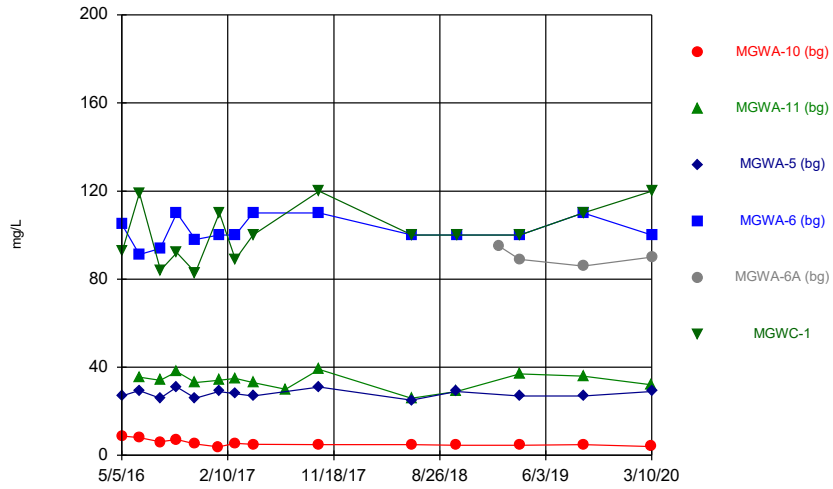
Constituent: Cadmium Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



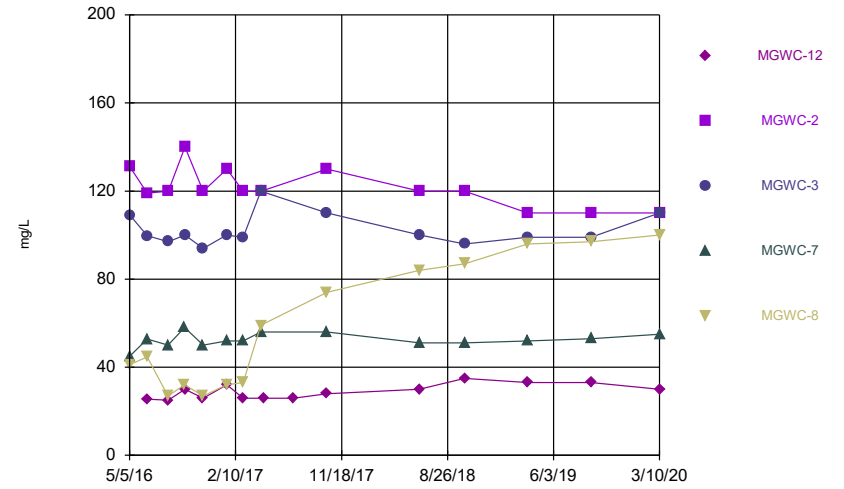
Constituent: Cadmium Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



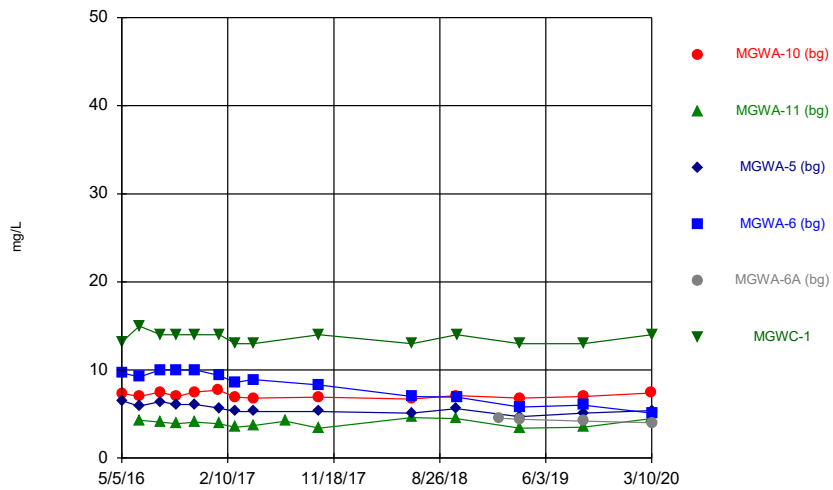
Constituent: Calcium Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



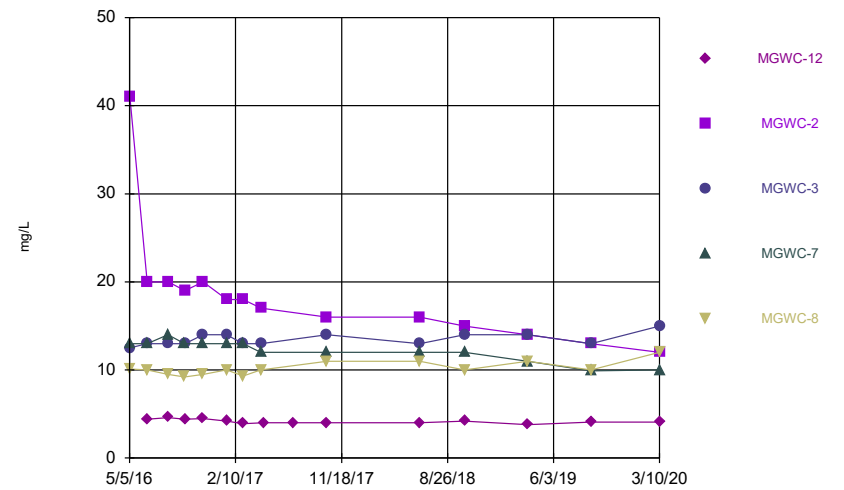
Constituent: Calcium Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



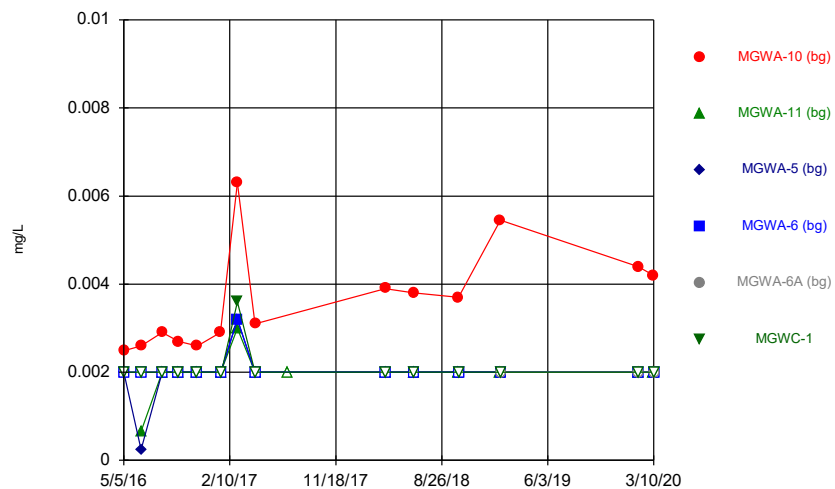
Constituent: Chloride Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



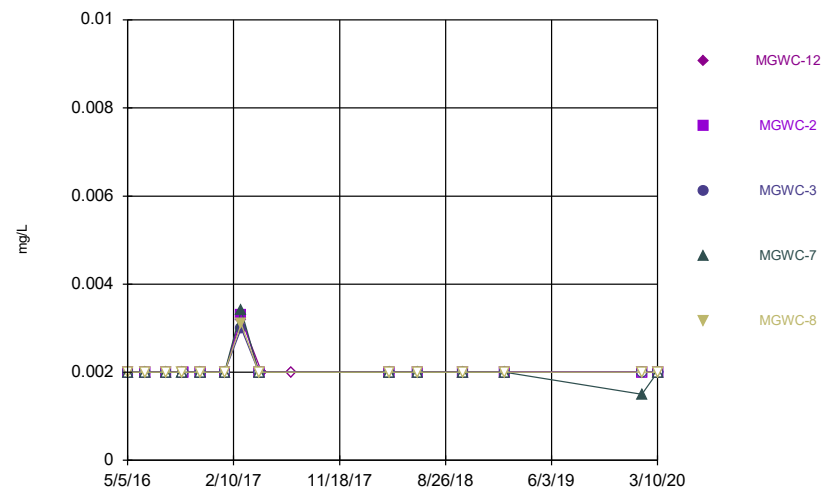
Constituent: Chloride Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



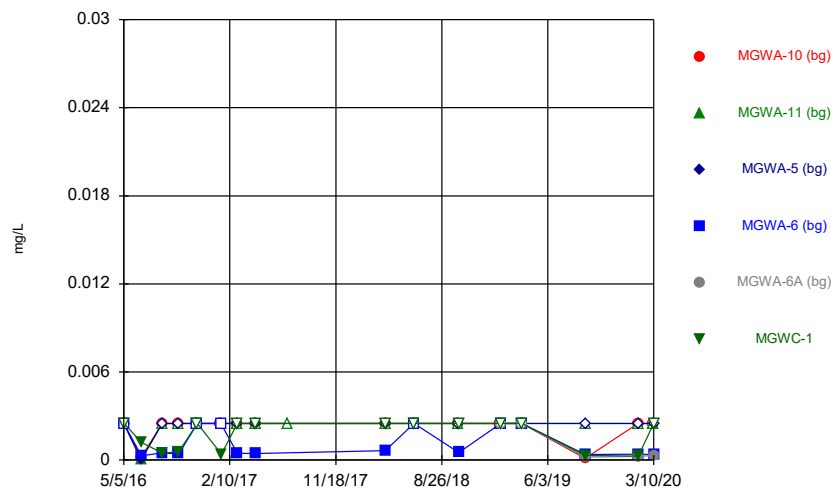
Constituent: Chromium Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



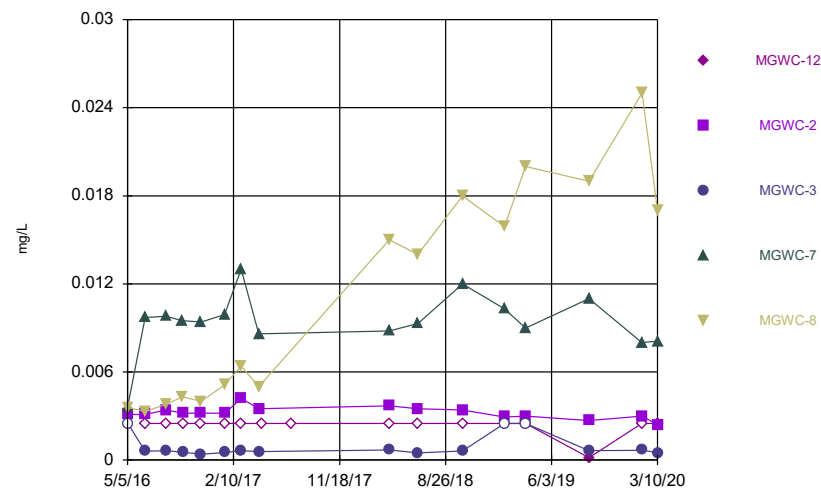
Constituent: Chromium Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



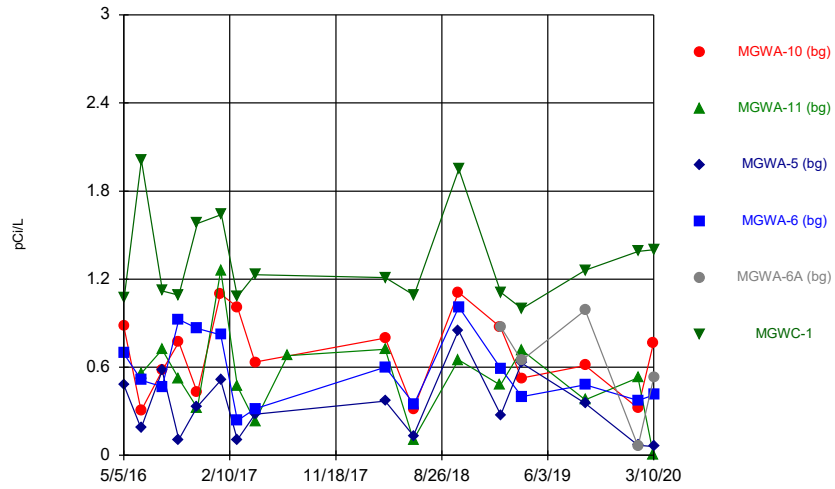
Constituent: Cobalt Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



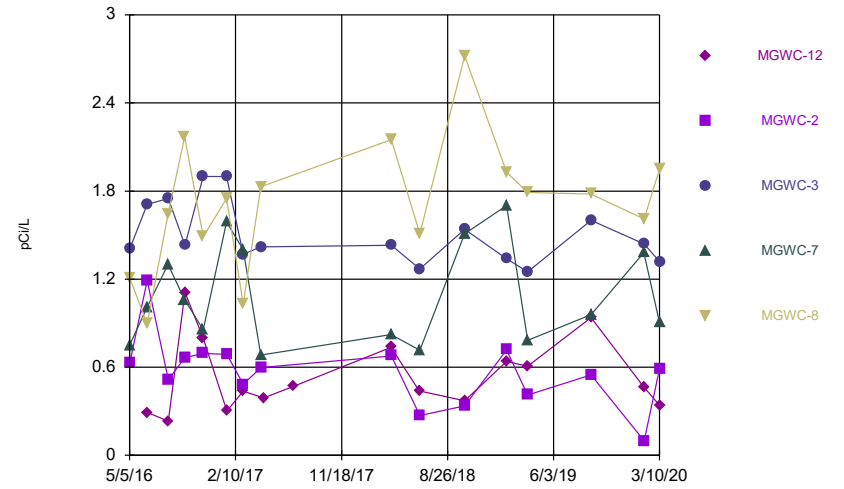
Constituent: Cobalt Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



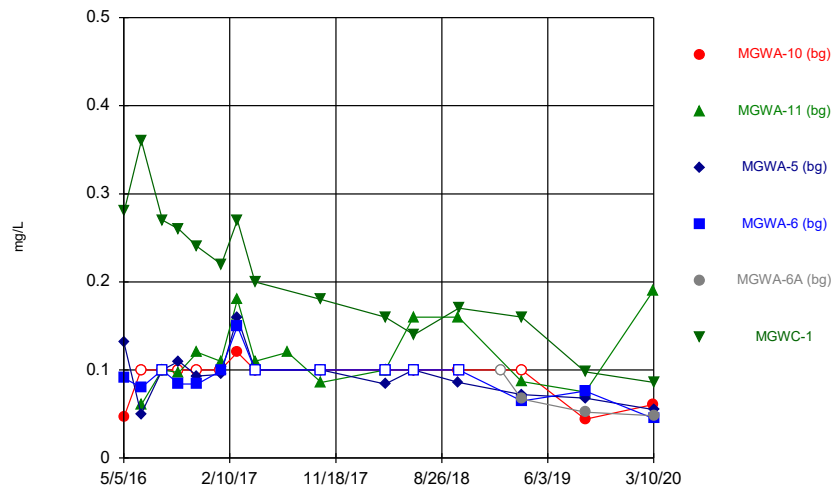
Constituent: Combined Radium 226 + 228 Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



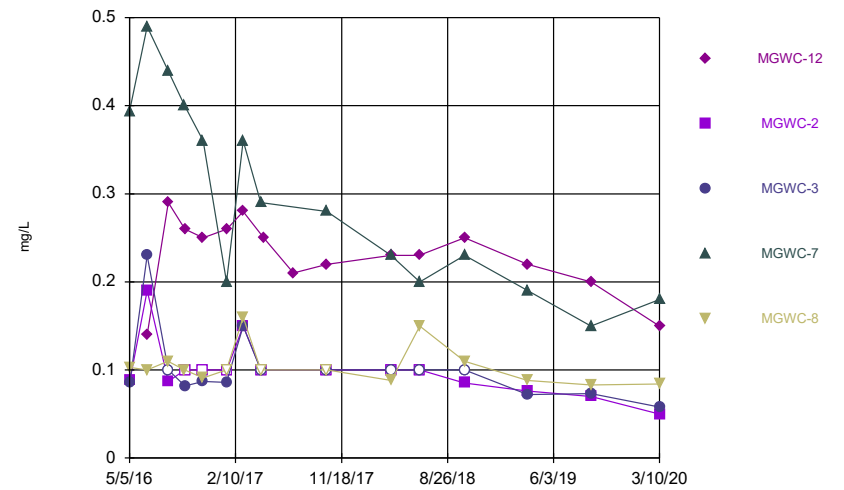
Constituent: Combined Radium 226 + 228 Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



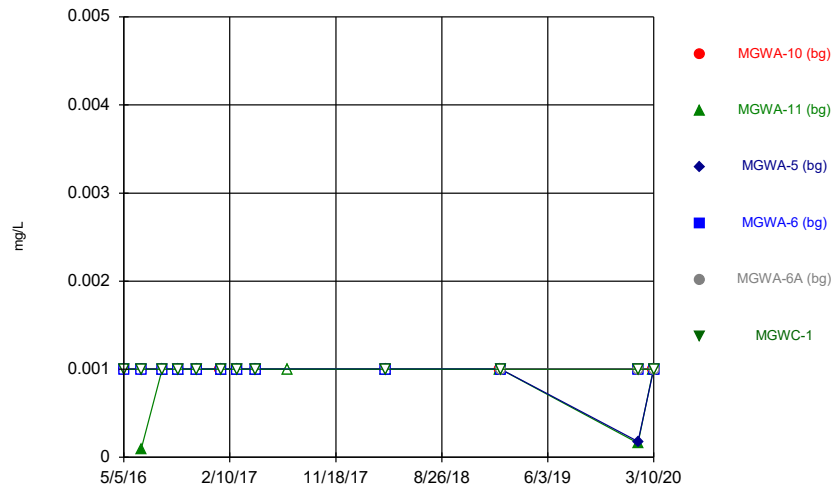
Constituent: Fluoride Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series

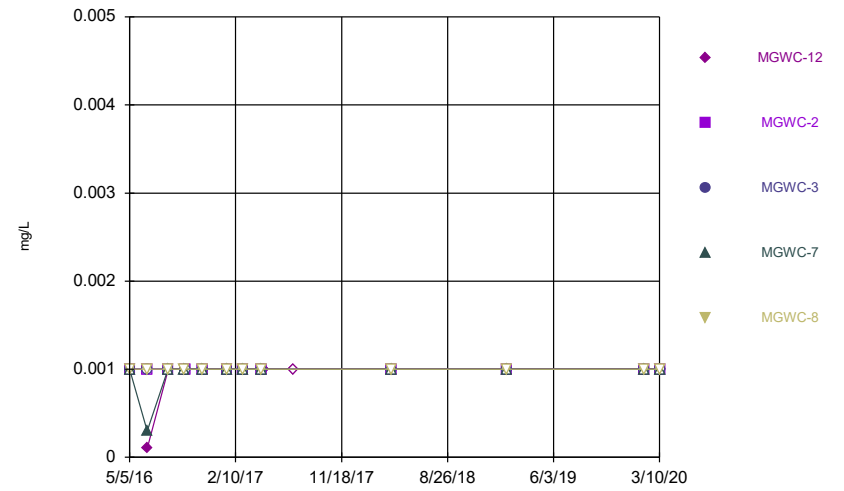


Constituent: Fluoride Analysis Run 5/27/2020 6:59 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

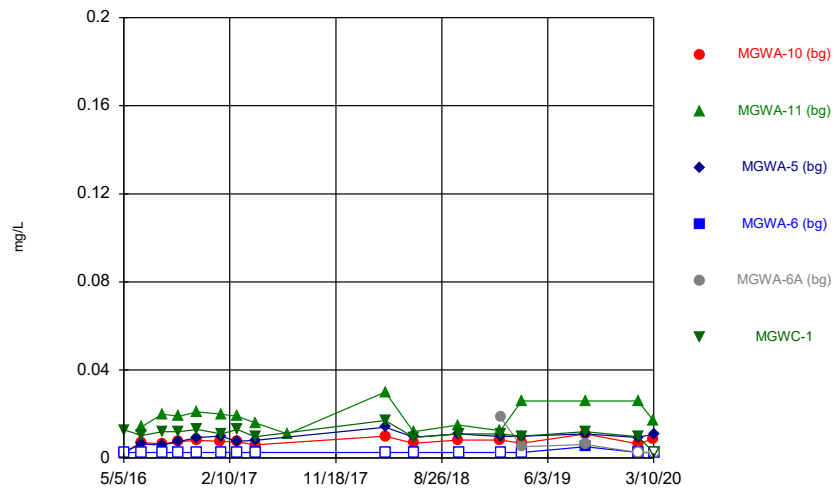
Time Series



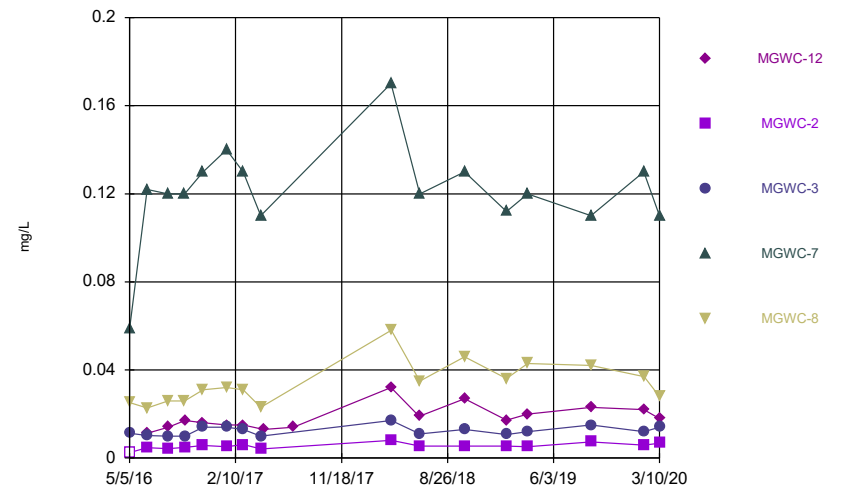
Time Series



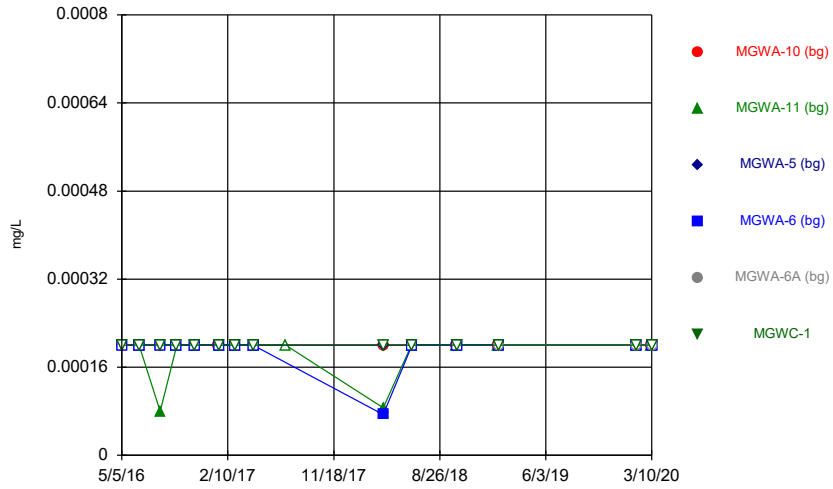
Time Series



Time Series

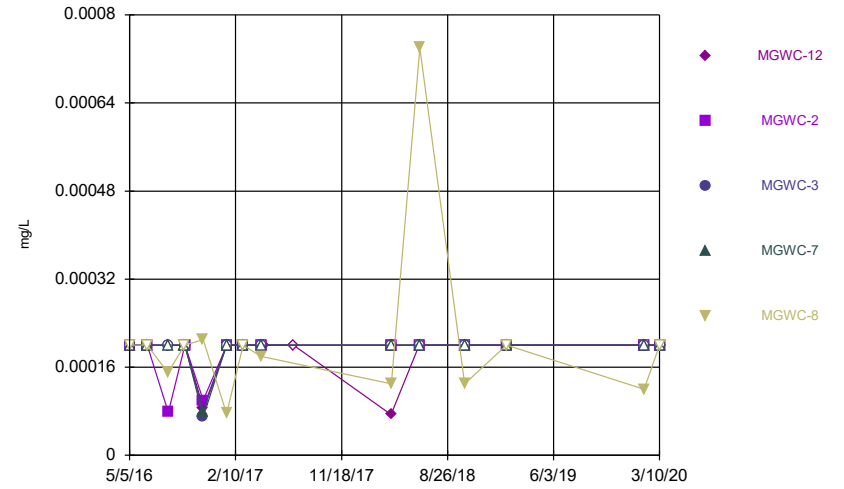


Time Series



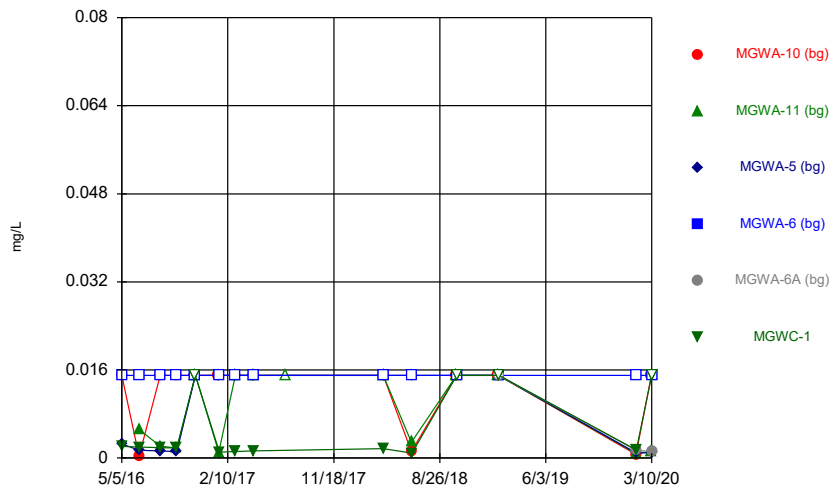
Constituent: Mercury Analysis Run 5/27/2020 6:59 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



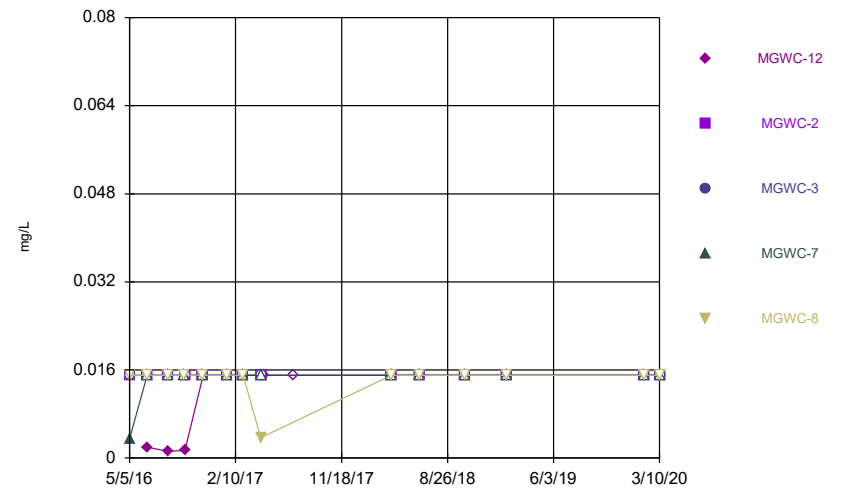
Constituent: Mercury Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



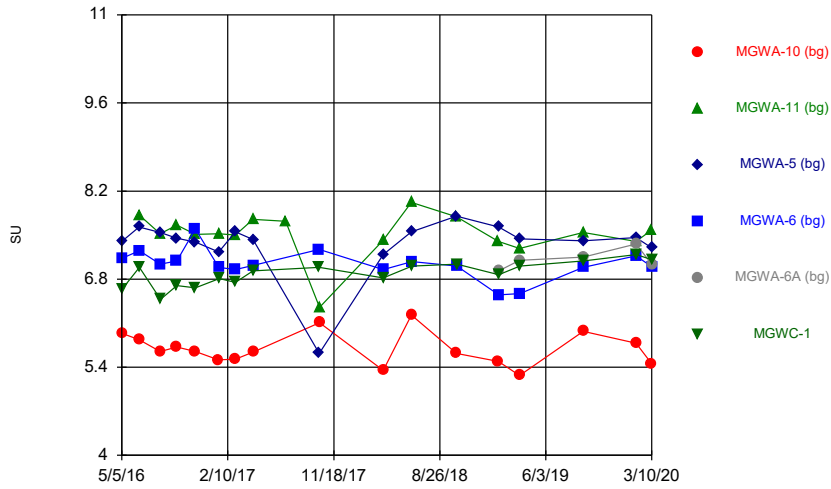
Constituent: Molybdenum Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series

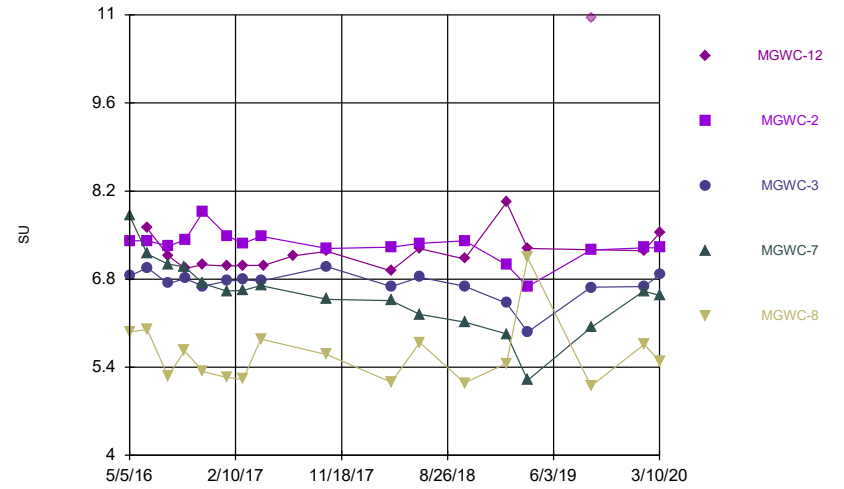


Constituent: Molybdenum Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

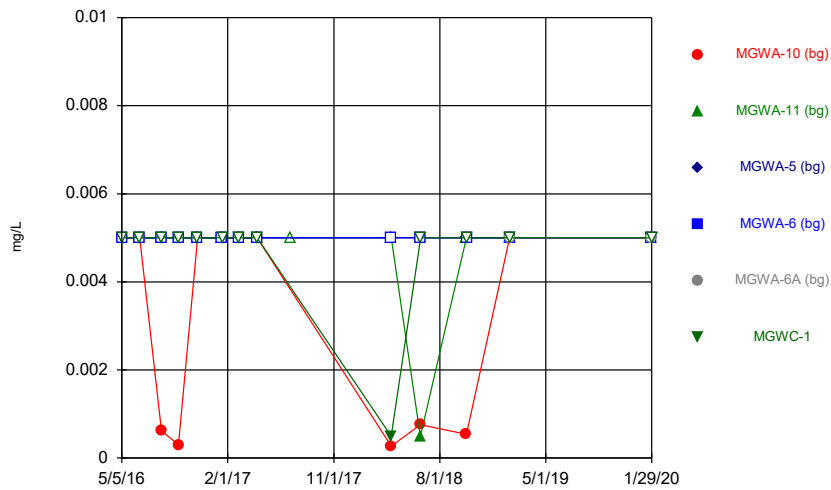
Time Series



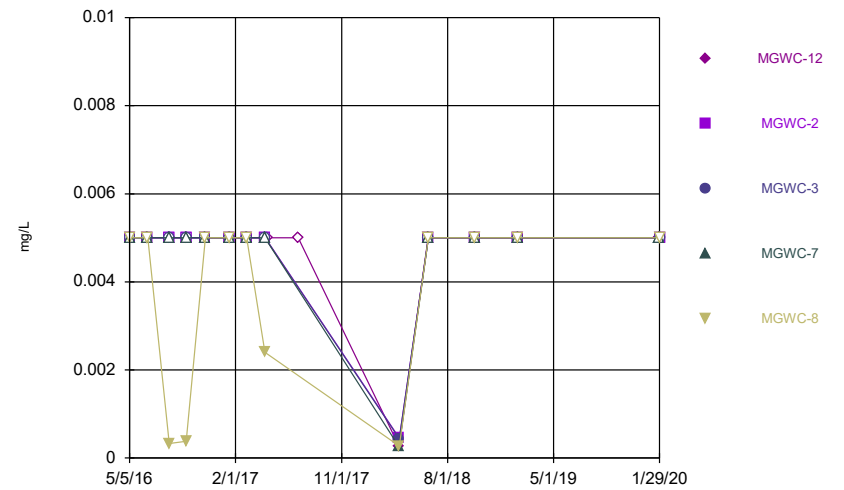
Time Series



Time Series

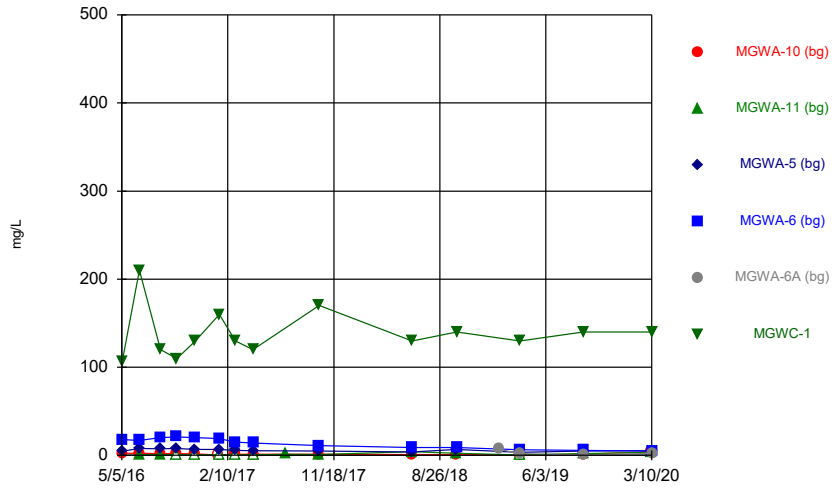


Time Series



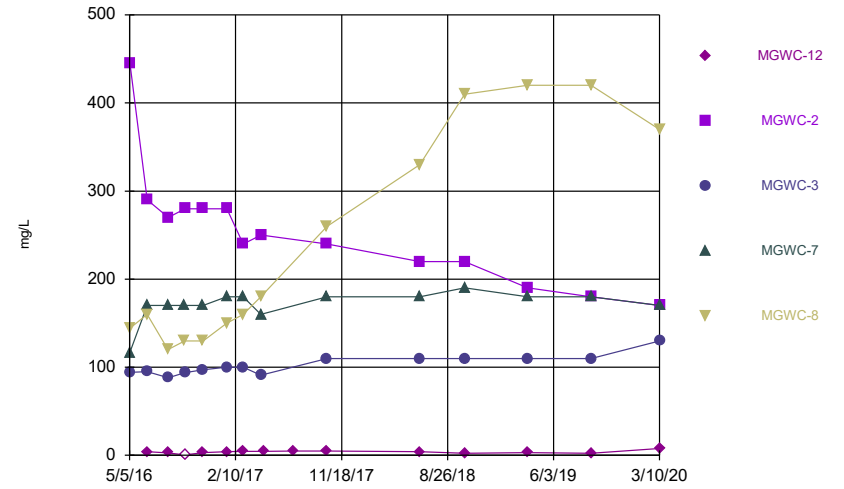


Time Series



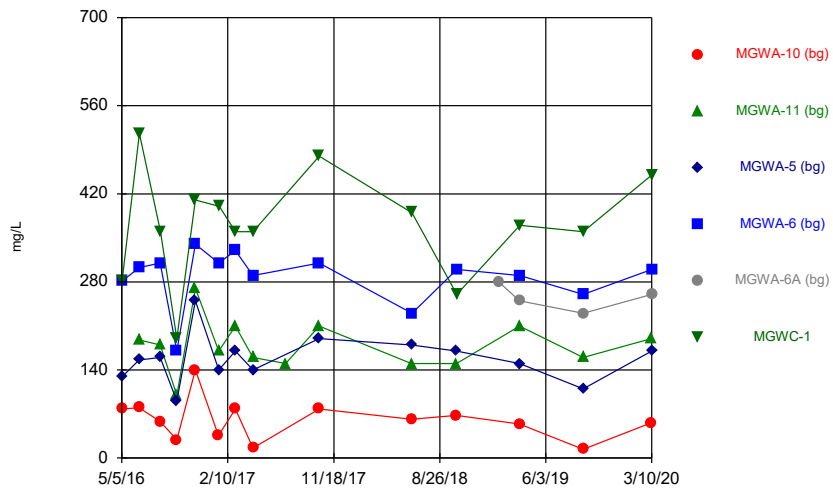
Constituent: Sulfate Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



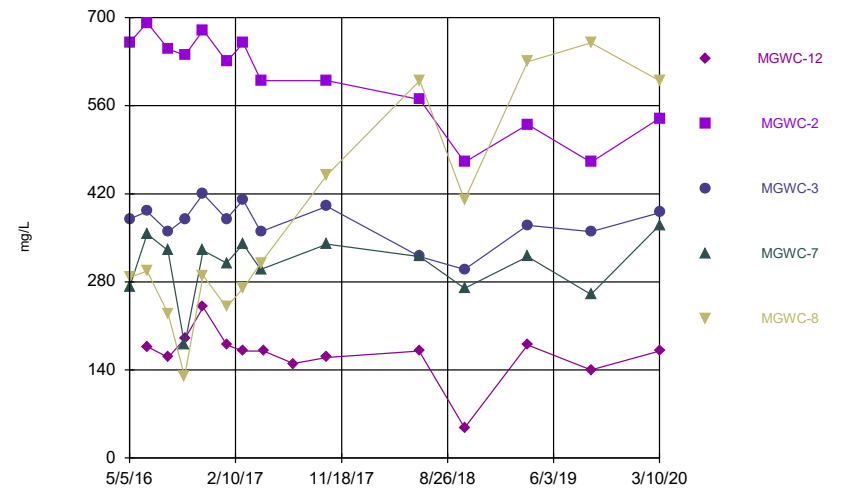
Constituent: Sulfate Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



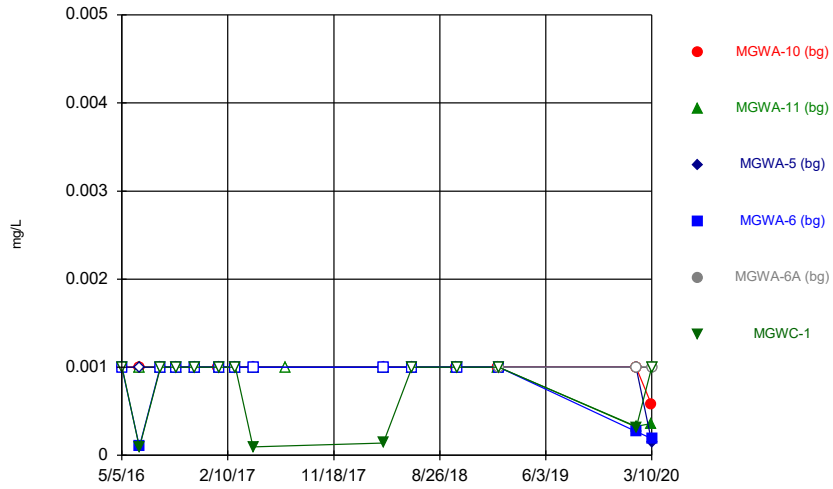
Constituent: TDS Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Time Series



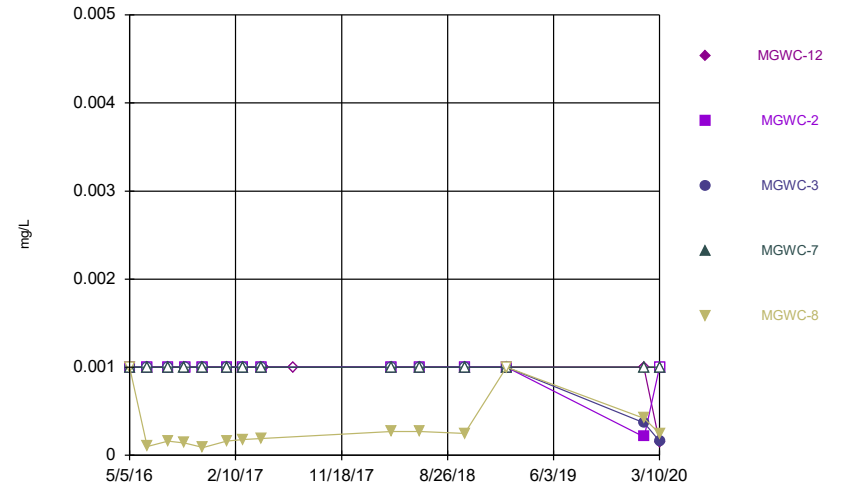
Constituent: TDS Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Time Series



Constituent: Thallium Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Time Series



Constituent: Thallium Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	0.00112 (J)		0.0012 (J)	<0.002		
5/6/2016						<0.002
6/20/2016	<0.002	<0.002	<0.002			
6/21/2016				0.0017 (J)		<0.002
8/15/2016	<0.002	<0.002	<0.002	<0.002		
8/16/2016						<0.002
9/28/2016	<0.002	<0.002	<0.002	<0.002		<0.002
11/16/2016	<0.002	<0.002	<0.002	<0.002		<0.002
1/16/2017	<0.002					
1/17/2017		<0.002	<0.002	<0.002		
1/19/2017						<0.002
3/2/2017	<0.002	<0.002	<0.002	<0.002		<0.002
4/18/2017	<0.002	<0.002	<0.002	<0.002		<0.002
7/13/2017		<0.002				
3/29/2018	<0.002	<0.002	<0.002	<0.002		<0.002
1/28/2019	<0.002	<0.002				
1/29/2019			<0.002	<0.002	<0.002	<0.002
1/28/2020	0.00049 (J)	<0.002	<0.002	<0.002	<0.002	
1/29/2020						<0.002
3/9/2020	<0.002	<0.002				
3/10/2020			<0.002	<0.002	<0.002	<0.002

# Time Series

Constituent: Antimony (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.00197 (J)	<0.002
5/6/2016		<0.002	<0.002		
6/21/2016	0.0004 (J)	<0.002	0.0003 (J)	<0.002	<0.002
8/15/2016				<0.002	<0.002
8/16/2016	<0.002	<0.002	<0.002		
9/28/2016				<0.002	<0.002
9/29/2016	<0.002	<0.002	<0.002		
11/16/2016	<0.002	<0.002	<0.002	<0.002	<0.002
1/17/2017			<0.002	<0.002	<0.002
1/18/2017	<0.002	<0.002			
3/2/2017	<0.002	<0.002	<0.002	<0.002	<0.002
4/18/2017			<0.002	<0.002	<0.002
4/19/2017		<0.002			
4/25/2017	<0.002				
7/13/2017	<0.002				
3/29/2018	<0.002			<0.002	
3/30/2018		<0.002	<0.002		<0.002
1/29/2019	<0.002	<0.002	<0.002	<0.002	<0.002
1/28/2020	<0.002			<0.002	
1/29/2020		<0.002	<0.002		<0.002
3/10/2020	<0.002	<0.002	<0.002	<0.002	<0.002

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/27/2020 7:00 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.005		<0.005	0.0343		
5/6/2016						0.00299 (J)
6/20/2016	0.00036 (J)	0.003 (J)	0.00014 (J)			
6/21/2016				0.0352		0.0047 (J)
8/15/2016	0.00096 (J)	0.0033	<0.005	0.035		
8/16/2016						0.003
9/28/2016	0.00095 (J)	0.0026	0.00062 (J)	0.033		0.0036
11/16/2016	<0.005	0.0013	<0.005	0.02		0.003
1/16/2017	<0.005					
1/17/2017		<0.005	<0.005	0.022		
1/19/2017						0.0024
3/2/2017	<0.005	0.0015	<0.005	0.021		0.0027
4/18/2017	<0.005	0.00071 (J)	<0.005	0.018		0.0024
7/13/2017		0.00066 (J)				
3/29/2018	<0.005	0.002	<0.005	0.014		0.0023
6/12/2018	<0.005	0.0017	<0.005			
6/13/2018				0.011		0.0021
10/9/2018	<0.005	0.00072 (J)	<0.005			
10/10/2018				0.014		0.0024
1/28/2019	<0.005	<0.005				
1/29/2019			<0.005	0.00972	0.0118	0.00255
3/25/2019	<0.005	0.0022	0.00069 (J)		0.0012 (J)	
3/26/2019				0.0097		0.002
9/10/2019	<0.005	0.0018	0.00039 (J)	0.0085	0.0021	0.0018
1/28/2020	<0.005	0.0014	0.00036 (J)	0.0063	0.0028	
1/29/2020						0.0021
3/9/2020	<0.005	0.00073 (J)				
3/10/2020			0.00031 (J)	0.0093	0.0029	0.0019

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.00143 (J)	<0.005
5/6/2016		<0.005	0.00154 (J)		
6/21/2016	0.0015 (J)	<0.005	0.0016 (J)	0.0009 (J)	<0.005
8/15/2016				0.0012 (J)	<0.005
8/16/2016	0.00082 (J)	<0.005	0.0017		
9/28/2016				0.00084 (J)	<0.005
9/29/2016	0.0019	<0.005	0.0013		
11/16/2016	0.0017	0.00068 (J)	0.0014	<0.005	<0.005
1/17/2017			0.00056 (J)	<0.005	<0.005
1/18/2017	0.00096 (J)	<0.005			
3/2/2017	0.00082 (J)	0.00065 (J)	0.0018	0.0009 (J)	<0.005
4/18/2017			0.0018	0.0005 (J)	0.00059 (J)
4/19/2017		<0.005			
4/25/2017	<0.005				
7/13/2017	0.00047 (J)				
3/29/2018	0.00053 (J)			0.00066 (J)	
3/30/2018		<0.005	0.0017		<0.005
6/12/2018	0.00063 (J)				
6/13/2018		<0.005	0.0015	<0.005	<0.005
10/10/2018	0.00098 (J)	<0.005	0.0016	<0.005	<0.005
1/29/2019	<0.005	<0.005	0.00143	<0.005	<0.005
3/26/2019	0.00079 (J)	<0.005	0.0012 (J)	<0.005	<0.005
9/10/2019	0.0011	0.00036 (J)	0.0017	0.00074 (J)	0.00056 (J)
1/28/2020	0.00051 (J)			0.00046 (J)	
1/29/2020		0.0004 (J)	0.0017		0.00047 (J)
3/10/2020	<0.005	<0.005	<0.005	<0.005	<0.005

# Time Series

Constituent: Barium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	0.0376		0.0295	0.0595		
5/6/2016						0.11
6/20/2016	0.033	0.091	0.031			
6/21/2016				0.0539		0.165
8/15/2016	0.029	0.11	0.032	0.053		
8/16/2016						0.094
9/28/2016	0.032	0.12	0.038	0.06		0.1
11/16/2016	0.027	0.11	0.035	0.052		0.096
1/16/2017	0.022					
1/17/2017		0.11	0.039	0.051		
1/19/2017						0.12
3/2/2017	0.027	0.11	0.037	0.043		0.097
4/18/2017	0.024	0.1	0.035	0.042		0.092
7/13/2017		0.087				
3/29/2018	0.021	0.11	0.037	0.043		0.095
6/12/2018	0.025	0.068	0.036			
6/13/2018				0.037		0.096
10/9/2018	0.024	0.072	0.034			
10/10/2018				0.037		0.095
1/28/2019	0.0249	0.0834				
1/29/2019			0.0363	0.0393	0.0421	0.107
3/25/2019	0.023	0.11	0.035		0.044	
3/26/2019				0.033		0.096
9/10/2019	0.031	0.13	0.035	0.04	0.042	0.11
1/28/2020	0.025	0.13	0.034	0.034	0.037	
1/29/2020						0.11
3/9/2020	0.023	0.094				
3/10/2020			0.043	0.031	0.035	0.13



# Time Series

Constituent: Barium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.039	0.0364
5/6/2016		0.0605	0.151		
6/21/2016	0.0439	0.0613	0.174	0.0152	0.0386
8/15/2016				0.015	0.03
8/16/2016	0.041	0.052	0.13		
9/28/2016				0.014	0.034
9/29/2016	0.052	0.053	0.14		
11/16/2016	0.044	0.056	0.14	0.013	0.034
1/17/2017			0.16	0.014	0.038
1/18/2017	0.056	0.06			
3/2/2017	0.04	0.056	0.15	0.013	0.037
4/18/2017			0.14	0.011	0.04
4/19/2017		0.051			
4/25/2017	0.042				
7/13/2017	0.043				
3/29/2018	0.061			0.01	
3/30/2018		0.049	0.13		0.041
6/12/2018	0.063				
6/13/2018		0.05	0.14	0.0098	0.038
10/10/2018	0.071	0.046	0.13	0.011	0.035
1/29/2019	0.06	0.0496	0.138	<0.0025	0.0344
3/26/2019	0.06	0.048	0.13	0.0086	0.032
9/10/2019	0.073	0.053	0.15	0.012	0.035
1/28/2020	0.069			0.012	
1/29/2020		0.051	0.15		0.033
3/10/2020	0.056	0.049	0.15	0.013	0.036

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.0025		<0.0025	<0.0025		
5/6/2016						<0.0025
6/20/2016	3.3E-05 (J)	<0.0025	<0.0025			
6/21/2016				<0.0025		<0.0025
8/15/2016	<0.0025	<0.0025	<0.0025	<0.0025		
8/16/2016						<0.0025
9/28/2016	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
11/16/2016	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
1/16/2017	<0.0025					
1/17/2017		<0.0025	<0.0025	<0.0025		
1/19/2017						<0.0025
3/2/2017	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
4/18/2017	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
7/13/2017		<0.0025				
3/29/2018	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
6/12/2018	<0.0025	<0.0025	<0.0025			
6/13/2018				<0.0025		<0.0025
10/9/2018	<0.0025	<0.0025	<0.0025			
10/10/2018				<0.0025		<0.0025
1/28/2019	<0.0025	<0.0025				
1/29/2019			<0.0025	<0.0025	<0.0025	<0.0025
1/28/2020	<0.0025	0.0004 (J)	<0.0025	<0.0025	<0.0025	
1/29/2020						0.00018 (J)
3/9/2020	0.00045 (J)	0.00018 (J)				
3/10/2020			<0.0025	<0.0025	<0.0025	<0.0025

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.0025	<0.0025
5/6/2016		<0.0025	<0.0025		
6/21/2016	<0.0025	<0.0025	<0.0025	<0.0025	0.0004 (J)
8/15/2016				<0.0025	0.00053 (J)
8/16/2016	<0.0025	<0.0025	<0.0025		
9/28/2016				<0.0025	0.00049 (J)
9/29/2016	<0.0025	<0.0025	<0.0025		
11/16/2016	<0.0025	<0.0025	<0.0025	<0.0025	0.0004 (J)
1/17/2017			<0.0025	<0.0025	0.00084 (J)
1/18/2017	<0.0025	<0.0025			
3/2/2017	<0.0025	<0.0025	<0.0025	<0.0025	0.00068 (J)
4/18/2017			<0.0025	<0.0025	0.00067 (J)
4/19/2017		<0.0025			
4/25/2017	<0.0025				
7/13/2017	<0.0025				
3/29/2018	<0.0025			<0.0025	
3/30/2018		<0.0025	<0.0025		0.0015 (J)
6/12/2018	<0.0025				
6/13/2018		<0.0025	<0.0025	<0.0025	0.0012 (J)
10/10/2018	<0.0025	<0.0025	<0.0025	<0.0025	0.0016 (J)
1/29/2019	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
1/28/2020	<0.0025			<0.0025	
1/29/2020		<0.0025	0.00031 (J)		0.0019
3/10/2020	<0.0025	<0.0025	<0.0025	<0.0025	0.0013 (J)

# Time Series

Constituent: Boron (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.08		<0.08	0.157		
5/6/2016						0.567
6/20/2016	0.011 (J)	0.017 (J)	0.013 (J)			
6/21/2016				0.124		1.55
8/15/2016	0.022 (J)	0.032 (J)	0.023 (J)	0.18		
8/16/2016						0.85
9/28/2016	0.023 (J)	0.021 (J)	<0.08	0.17		0.7
11/16/2016	<0.08	<0.08	<0.08	0.17		0.88
1/16/2017	0.021 (J)					
1/17/2017		<0.08	<0.08	0.17		
1/19/2017						1.5
3/2/2017	<0.08	<0.08	<0.08	0.14		0.89
4/18/2017	<0.08	<0.08	<0.08	0.14		1.1
7/13/2017		<0.08				
10/10/2017	0.021 (J)	0.025 (J)	<0.08	0.12		1.9
6/12/2018	<0.08	<0.08	<0.08			
6/13/2018				0.11		1.2
10/9/2018	<0.08	<0.08	<0.08			
10/10/2018				0.096 (J)		1.2
1/29/2019					<0.08	
3/25/2019	<0.08	<0.08	<0.08		<0.08	
3/26/2019				0.079 (J)		1.3
9/10/2019	<0.08	<0.08	<0.08	0.097	0.04 (J)	1.5
3/9/2020	0.045 (J)	<0.08				
3/10/2020			<0.08	0.051 (J)	<0.08	1.9

# Time Series

Constituent: Boron (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.855	0.976
5/6/2016		3.78	0.926		
6/21/2016	0.0201 (J)	3.1	0.792	1.15	0.862
8/15/2016				1.3	0.8
8/16/2016	0.055	2.8	1		
9/28/2016				1.3	0.8
9/29/2016	<0.08	3.1	1		
11/16/2016	0.055	3.9	1.2	1.3	0.98
1/17/2017			1.3	1.3	1.6
1/18/2017	0.097	3.7			
3/2/2017	0.064	3.3	1.3	1.3	1.8
4/18/2017			1.8	1.5	2.4
4/19/2017		3.7			
4/25/2017	<0.08				
7/13/2017	<0.08				
10/10/2017	<0.08	3.4	1.7	1.4	4.2
6/12/2018	<0.08				
6/13/2018		3	1.6	1.4	4.9
10/10/2018	0.034 (J)	3	1.6	1.4	5.1
3/26/2019	0.032 (J)	2.6	1.5	1.5	5.1
9/10/2019	0.06 (J)	2.4	1.5	1.5	4.8
3/10/2020	<0.08	2.3	1.3	1.4	4

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.0025		<0.0025	<0.0025		
5/6/2016						0.000126 (J)
6/20/2016	<0.0025	<0.0025	<0.0025			
6/21/2016				<0.0025		0.0005 (J)
8/15/2016	<0.0025	<0.0025	<0.0025	<0.0025		
8/16/2016						<0.0025
9/28/2016	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
11/16/2016	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
1/16/2017	<0.0025					
1/17/2017		<0.0025	<0.0025	<0.0025		
1/19/2017						<0.0025
3/2/2017	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
4/18/2017	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
7/13/2017		<0.0025				
3/29/2018	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
6/12/2018	<0.0025	<0.0025	<0.0025			
6/13/2018				<0.0025		<0.0025
10/9/2018	<0.0025	<0.0025	<0.0025			
10/10/2018				<0.0025		<0.0025
1/28/2019	<0.0025	<0.0025				
1/29/2019			<0.0025	<0.0025	<0.0025	<0.0025
3/25/2019	<0.0025	<0.0025	<0.0025		<0.0025	
3/26/2019				<0.0025		<0.0025
9/10/2019	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.00017 (J)
1/28/2020	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	
1/29/2020						<0.0025
3/9/2020	0.00023 (J)	<0.0025				
3/10/2020			<0.0025	<0.0025	<0.0025	<0.0025

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.0025	0.000784 (J)
5/6/2016		0.00166	<0.0025		
6/21/2016	<0.0025	0.0008 (J)	<0.0025	<0.0025	0.0003 (J)
8/15/2016				<0.0025	<0.0025
8/16/2016	<0.0025	0.0034	<0.0025		
9/28/2016				<0.0025	<0.0025
9/29/2016	<0.0025	0.0027	<0.0025		
11/16/2016	<0.0025	0.0022 (J)	<0.0025	<0.0025	<0.0025
1/17/2017			<0.0025	<0.0025	<0.0025
1/18/2017	<0.0025	0.008			
3/2/2017	<0.0025	0.005	<0.0025	<0.0025	<0.0025
4/18/2017			<0.0025	<0.0025	0.00044 (J)
4/19/2017		0.0011 (J)			
4/25/2017	<0.0025				
7/13/2017	<0.0025				
3/29/2018	<0.0025			<0.0025	
3/30/2018		0.0016 (J)	<0.0025		0.00058 (J)
6/12/2018	<0.0025				
6/13/2018		0.0016 (J)	<0.0025	<0.0025	0.00076 (J)
10/10/2018	<0.0025	0.001 (J)	<0.0025	<0.0025	0.00035 (J)
1/29/2019	<0.0025	0.00315	<0.0025	<0.0025	<0.0025
3/26/2019	<0.0025	0.0019 (J)	<0.0025	<0.0025	0.0005 (J)
9/10/2019	<0.0025	0.0011	<0.0025	<0.0025	0.00079 (J)
1/28/2020	<0.0025			<0.0025	
1/29/2020		0.0054	<0.0025		0.0009 (J)
3/10/2020	<0.0025	0.0011 (J)	<0.0025	<0.0025	0.0011 (J)



# Time Series

Constituent: Calcium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	8.83		27	105		
5/6/2016						92.5
6/20/2016	8.1	35.5	29.4			
6/21/2016				91.2		119
8/15/2016	6.1	34	26	94		
8/16/2016						84
9/28/2016	7.2	38	31	110		92
11/16/2016	5.2	33	26	98		83
1/16/2017	3.8					
1/17/2017		34	29	100		
1/19/2017						110
3/2/2017	5.4	35	28	100		89
4/18/2017	5	33	27	110		100
7/13/2017		30				
10/10/2017	4.8	39	31	110		120
6/12/2018	4.8	26	25			
6/13/2018				100		100
10/9/2018	4.5	29	29			
10/10/2018				100		100
1/29/2019					95.1	
3/25/2019	4.6	37	27		89	
3/26/2019				100		100
9/10/2019	4.9	36	27	110	86	110
3/9/2020	4	32				
3/10/2020			29	100	90	120

# Time Series

Constituent: Calcium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				45	41.2
5/6/2016		131	109		
6/21/2016	25.5	119	99.7	52.8	44.7
8/15/2016				50	27
8/16/2016	25	120	97		
9/28/2016				58	32
9/29/2016	30	140	100		
11/16/2016	26	120	94	50	27
1/17/2017			100	52	32
1/18/2017	32	130			
3/2/2017	26	120	99	52	33
4/18/2017			120	56	59
4/19/2017		120			
4/25/2017	26				
7/13/2017	26				
10/10/2017	28	130	110	56	74
6/12/2018	30				
6/13/2018		120	100	51	84
10/10/2018	35	120	96	51	87
3/26/2019	33	110	99	52	96
9/10/2019	33	110	99	53	97
3/10/2020	30	110	110	55	100

# Time Series

Constituent: Chloride (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	7.35		6.51	9.67		
5/6/2016						13.2
6/20/2016	7	4.3	5.9			
6/21/2016				9.2		15
8/15/2016	7.5	4.1	6.4	10		
8/16/2016						14
9/28/2016	7	3.9	6.1	10		14
11/16/2016	7.5	4.1	6.1	10		14
1/16/2017	7.7					
1/17/2017		3.9	5.7	9.4		
1/19/2017						14
3/2/2017	6.9	3.5	5.3	8.6		13
4/18/2017	6.8	3.7	5.3	8.9		13
7/13/2017		4.2				
10/10/2017	6.9	3.4	5.3	8.3		14
6/12/2018	6.7	4.6	5.1			
6/13/2018				7		13
10/9/2018	7.1	4.5	5.6			
10/10/2018				6.9		14
1/29/2019					4.51	
3/25/2019	6.8	3.4	4.7		4.4	
3/26/2019				5.8		13
9/10/2019	7	3.5	5.1	6	4.2	13
3/9/2020	7.4	4.5				
3/10/2020			5.4	5.1	4	14

# Time Series

Constituent: Chloride (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				13	10.1
5/6/2016		41	12.5		
6/21/2016	4.4	20	13	13	10
8/15/2016				14	9.5
8/16/2016	4.6	20	13		
9/28/2016				13	9.2
9/29/2016	4.4	19	13		
11/16/2016	4.5	20	14	13	9.5
1/17/2017			14	13	10
1/18/2017	4.2	18			
3/2/2017	3.9	18	13	13	9.3
4/18/2017			13	12	10
4/19/2017		17			
4/25/2017	4				
7/13/2017	4				
10/10/2017	4	16	14	12	11
6/12/2018	4				
6/13/2018		16	13	12	11
10/10/2018	4.2	15	14	12	10
3/26/2019	3.8	14	14	11	11
9/10/2019	4.1	13	13	9.9	10
3/10/2020	4.1	12	15	10	12

# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	0.00249 (J)		<0.002	<0.002		
5/6/2016						<0.002
6/20/2016	0.0026 (J)	0.00066 (J)	0.00024 (J)			
6/21/2016				<0.002		<0.002
8/15/2016	0.0029	<0.002	<0.002	<0.002		
8/16/2016						<0.002
9/28/2016	0.0027	<0.002	<0.002	<0.002		<0.002
11/16/2016	0.0026	<0.002	<0.002	<0.002		<0.002
1/16/2017	0.0029					
1/17/2017		<0.002	<0.002	<0.002		
1/19/2017						<0.002
3/2/2017	0.0063	0.003	0.0032	0.0032		0.0036
4/18/2017	0.0031	<0.002	<0.002	<0.002		<0.002
7/13/2017		<0.002				
3/29/2018	0.0039	<0.002	<0.002	<0.002		<0.002
6/12/2018	0.0038	<0.002	<0.002			
6/13/2018				<0.002		<0.002
10/9/2018	0.0037	<0.002	<0.002			
10/10/2018				<0.002		<0.002
1/28/2019	0.00545	<0.002				
1/29/2019			<0.002	<0.002	<0.002	<0.002
1/28/2020	0.0044	<0.002	<0.002	<0.002	<0.002	
1/29/2020						<0.002
3/9/2020	0.0042	<0.002				
3/10/2020			<0.002	<0.002	<0.002	<0.002

# Time Series

Constituent: Chromium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.002	<0.002
5/6/2016		<0.002	<0.002		
6/21/2016	<0.002	<0.002	<0.002	<0.002	<0.002
8/15/2016				<0.002	<0.002
8/16/2016	<0.002	<0.002	<0.002		
9/28/2016				<0.002	<0.002
9/29/2016	<0.002	<0.002	<0.002		
11/16/2016	<0.002	<0.002	<0.002	<0.002	<0.002
1/17/2017			<0.002	<0.002	<0.002
1/18/2017	<0.002	<0.002			
3/2/2017	0.0032	0.0033	0.003	0.0034	0.0031
4/18/2017			<0.002	<0.002	<0.002
4/19/2017		<0.002			
4/25/2017	<0.002				
7/13/2017	<0.002				
3/29/2018	<0.002			<0.002	
3/30/2018		<0.002	<0.002		<0.002
6/12/2018	<0.002				
6/13/2018		<0.002	<0.002	<0.002	<0.002
10/10/2018	<0.002	<0.002	<0.002	<0.002	<0.002
1/29/2019	<0.002	<0.002	<0.002	<0.002	<0.002
1/28/2020	<0.002			0.0015 (J)	
1/29/2020		<0.002	<0.002		<0.002
3/10/2020	<0.002	<0.002	<0.002	<0.002	<0.002

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.0025		<0.0025	<0.0025		
5/6/2016						<0.0025
6/20/2016	0.00018 (J)	3.9E-05 (J)	1.2E-05 (J)			
6/21/2016				0.0003 (J)		0.0012 (J)
8/15/2016	<0.0025	<0.0025	<0.0025	0.00049 (J)		
8/16/2016						0.00047 (J)
9/28/2016	<0.0025	<0.0025	<0.0025	0.00043 (J)		0.00058 (J)
11/16/2016	<0.0025	<0.0025	<0.0025	<0.0025		<0.0025
1/16/2017	<0.0025					
1/17/2017		<0.0025	<0.0025	<0.0025		
1/19/2017						0.0004 (J)
3/2/2017	<0.0025	<0.0025	<0.0025	0.00046 (J)		<0.0025
4/18/2017	<0.0025	<0.0025	<0.0025	0.00044 (J)		<0.0025
7/13/2017		<0.0025				
3/29/2018	<0.0025	<0.0025	<0.0025	0.00065 (J)		<0.0025
6/12/2018	<0.0025	<0.0025	<0.0025			
6/13/2018				<0.0025		<0.0025
10/9/2018	<0.0025	<0.0025	<0.0025			
10/10/2018				0.00051 (J)		<0.0025
1/28/2019	<0.0025	<0.0025				
1/29/2019			<0.0025	<0.0025	<0.0025	<0.0025
3/25/2019	<0.0025	<0.0025	<0.0025		<0.0025	
3/26/2019				<0.0025		<0.0025
9/10/2019	0.00011 (J)	<0.0025	<0.0025	0.00037 (J)	0.0002 (J)	0.00032 (J)
1/28/2020	<0.0025	<0.0025	<0.0025	0.00041 (J)	0.00024 (J)	
1/29/2020						0.00027 (J)
3/9/2020	<0.0025	<0.0025				
3/10/2020			<0.0025	0.00038 (J)	0.00032 (J)	<0.0025



# Time Series

Constituent: Cobalt (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.0036 (J)	0.00359 (J)
5/6/2016		0.00311 (J)	<0.0025		
6/21/2016	<0.0025	0.0031 (J)	0.0006 (J)	0.0097 (J)	0.0033 (J)
8/15/2016				0.0098	0.0038
8/16/2016	<0.0025	0.0034	0.00064 (J)		
9/28/2016				0.0095	0.0043
9/29/2016	<0.0025	0.0032	0.00054 (J)		
11/16/2016	<0.0025	0.0032	0.00041 (J)	0.0094	0.004
1/17/2017			0.00051 (J)	0.0099	0.0051
1/18/2017	<0.0025	0.0032			
3/2/2017	<0.0025	0.0042	0.00064 (J)	0.013	0.0064
4/18/2017			0.00057 (J)	0.0086	0.005
4/19/2017		0.0035			
4/25/2017	<0.0025				
7/13/2017	<0.0025				
3/29/2018	<0.0025			0.0088	
3/30/2018		0.0037	0.00068 (J)		0.015
6/12/2018	<0.0025				
6/13/2018		0.0035	0.00048 (J)	0.0093	0.014
10/10/2018	<0.0025	0.0034	0.00063 (J)	0.012	0.018
1/29/2019	<0.0025	0.00293	<0.0025	0.0103	0.0159
3/26/2019	<0.0025	0.003	<0.0025	0.009	0.02
9/10/2019	0.00016 (J)	0.0027	0.00065	0.011	0.019
1/28/2020	<0.0025			0.008	
1/29/2020		0.003	0.00067		0.025
3/10/2020	<0.0025	0.0024 (J)	0.0005 (J)	0.0081	0.017

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	0.879		0.48	0.694		
5/6/2016						1.07
6/20/2016	0.305 (U)	0.556 (U)	0.184			
6/21/2016				0.511 (U)		2.01
8/15/2016	0.577	0.72	0.577	0.467		
8/16/2016						1.12
9/28/2016	0.77	0.521 (U)	0.107 (U)	0.926		1.09
11/16/2016	0.427 (U)	0.322 (U)	0.333 (U)	0.863		1.58
1/16/2017	1.1					
1/17/2017		1.26	0.511 (U)	0.82		
1/19/2017						1.64
3/2/2017	1.01	0.47	0.105 (U)	0.236 (U)		1.08
4/18/2017	0.635	0.233 (U)	0.279 (U)	0.316 (U)		1.23
7/13/2017		0.679				
3/29/2018	0.799	0.723	0.37	0.6		1.21
6/12/2018	0.313 (U)	0.105 (U)	0.133 (U)			
6/13/2018				0.349 (U)		1.09
10/9/2018	1.11	0.65	0.85			
10/10/2018				1.01		1.95
1/28/2019	0.872	0.478				
1/29/2019			0.275 (U)	0.591	0.874	1.11
3/25/2019	0.526	0.717	0.629		0.646	
3/26/2019				0.4		1
9/10/2019	0.612	0.377 (U)	0.354 (U)	0.481	0.988	1.26
1/28/2020	0.322 (U)	0.528	0.0677 (U)	0.374 (U)	0.0609 (U)	
1/29/2020						1.39
3/9/2020	0.761	0.00483 (U)				
3/10/2020			0.0594 (U)	0.41 (U)	0.528	1.4

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.75	1.21
5/6/2016		0.633	1.41		
6/21/2016	0.292 (U)	1.19 (U)	1.71	1.01	0.895 (U)
8/15/2016				1.3	1.64
8/16/2016	0.232 (U)	0.516	1.75		
9/28/2016				1.06	2.17
9/29/2016	1.11	0.665	1.43		
11/16/2016	0.798	0.694	1.9	0.855	1.49
1/17/2017			1.9	1.59	1.75
1/18/2017	0.302 (U)	0.688			
3/2/2017	0.437	0.484	1.37	1.4	1.03
4/18/2017			1.42	0.684	1.83
4/19/2017		0.599			
4/25/2017	0.391				
7/13/2017	0.47				
3/29/2018	0.736			0.822	
3/30/2018		0.677	1.43		2.15
6/12/2018	0.438				
6/13/2018		0.272 (U)	1.27	0.716	1.51
10/10/2018	0.371	0.336	1.54	1.51	2.72
1/29/2019	0.639	0.719	1.34	1.7	1.93
3/26/2019	0.607	0.41 (U)	1.25	0.784	1.79
9/10/2019	0.939	0.548	1.6	0.958	1.78
1/28/2020	0.465			1.38	
1/29/2020		0.0985 (U)	1.44		1.61
3/10/2020	0.34 (U)	0.589	1.32	0.903	1.95

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	0.046 (J)		0.132 (J)	0.091 (J)		
5/6/2016						0.28 (J)
6/20/2016	<0.1	0.06 (J)	0.05 (J)			
6/21/2016				0.08 (J)		0.36
8/15/2016	<0.1	0.1 (J)	0.1 (J)	<0.1		
8/16/2016						0.27
9/28/2016	<0.1	0.097 (J)	0.11 (J)	0.084 (J)		0.26
11/16/2016	<0.1	0.12 (J)	0.093 (J)	0.084 (J)		0.24
1/16/2017	<0.1					
1/17/2017		0.11 (J)	0.095 (J)	0.099 (J)		
1/19/2017						0.22
3/2/2017	0.12 (J)	0.18 (J)	0.16 (J)	0.15 (J)		0.27
4/18/2017	<0.1	0.11 (J)	<0.1	<0.1		0.2
7/13/2017		0.12 (J)				
10/10/2017	<0.1	0.086 (J)	<0.1	<0.1		0.18 (J)
3/29/2018	<0.1	<0.1	0.084 (J)	<0.1		0.16 (J)
6/12/2018	<0.1	0.16 (J)	<0.1			
6/13/2018				<0.1		0.14 (J)
10/9/2018	<0.1	0.16 (J)	0.086 (J)			
10/10/2018				<0.1		0.17 (J)
1/29/2019					<0.1	
3/25/2019	<0.1	0.087 (J)	0.072 (J)		0.067 (J)	
3/26/2019				0.065 (J)		0.16
9/10/2019	0.044 (J)	0.075 (J)	0.068 (J)	0.076 (J)	0.052 (J)	0.098 (J)
3/9/2020	0.061 (J)	0.19				
3/10/2020			0.055 (J)	0.045 (J)	0.048 (J)	0.086 (J)

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.394	0.103 (J)
5/6/2016		0.088 (J)	0.086 (J)		
6/21/2016	0.14 (J)	0.19 (J)	0.23 (J)	0.49	0.1 (J)
8/15/2016				0.44	0.11 (J)
8/16/2016	0.29	0.087 (J)	<0.1		
9/28/2016				0.4	0.1 (J)
9/29/2016	0.26	<0.1	0.082 (J)		
11/16/2016	0.25	<0.1	0.087 (J)	0.36	0.091 (J)
1/17/2017			0.086 (J)	0.2	<0.1
1/18/2017	0.26	<0.1			
3/2/2017	0.28	0.15 (J)	0.15 (J)	0.36	0.16 (J)
4/18/2017			<0.1	0.29	<0.1
4/19/2017		<0.1			
4/25/2017	0.25				
7/13/2017	0.21				
10/10/2017	0.22	<0.1	<0.1	0.28	<0.1
3/29/2018	0.23			0.23	
3/30/2018		<0.1	<0.1		0.088 (J)
6/12/2018	0.23				
6/13/2018		<0.1	<0.1	0.2	0.15 (J)
10/10/2018	0.25	0.085 (J)	<0.1	0.23	0.11 (J)
3/26/2019	0.22	0.076 (J)	0.072 (J)	0.19 (J)	0.088 (J)
9/10/2019	0.2	0.07 (J)	0.073 (J)	0.15	0.083 (J)
3/10/2020	0.15	0.05 (J)	0.058 (J)	0.18	0.084 (J)

# Time Series

Constituent: Lead (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.001		<0.001	<0.001		
5/6/2016						<0.001
6/20/2016	<0.001	8.7E-05 (J)	<0.001			
6/21/2016				<0.001		<0.001
8/15/2016	<0.001	<0.001	<0.001	<0.001		
8/16/2016						<0.001
9/28/2016	<0.001	<0.001	<0.001	<0.001		<0.001
11/16/2016	<0.001	<0.001	<0.001	<0.001		<0.001
1/16/2017	<0.001					
1/17/2017		<0.001	<0.001	<0.001		
1/19/2017						<0.001
3/2/2017	<0.001	<0.001	<0.001	<0.001		<0.001
4/18/2017	<0.001	<0.001	<0.001	<0.001		<0.001
7/13/2017		<0.001				
3/29/2018	<0.001	<0.001	<0.001	<0.001		<0.001
1/28/2019	<0.001	<0.001				
1/29/2019			<0.001	<0.001	<0.001	<0.001
1/28/2020	<0.001	0.00016 (J)	0.00018 (J)	<0.001	<0.001	
1/29/2020						<0.001
3/9/2020	<0.001	<0.001				
3/10/2020			<0.001	<0.001	<0.001	<0.001

# Time Series

Constituent: Lead (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.001	<0.001
5/6/2016		<0.001	<0.001		
6/21/2016	0.0001 (J)	<0.001	<0.001	0.0003 (J)	<0.001
8/15/2016				<0.001	<0.001
8/16/2016	<0.001	<0.001	<0.001		
9/28/2016				<0.001	<0.001
9/29/2016	<0.001	<0.001	<0.001		
11/16/2016	<0.001	<0.001	<0.001	<0.001	<0.001
1/17/2017			<0.001	<0.001	<0.001
1/18/2017	<0.001	<0.001			
3/2/2017	<0.001	<0.001	<0.001	<0.001	<0.001
4/18/2017			<0.001	<0.001	<0.001
4/19/2017		<0.001			
4/25/2017	<0.001				
7/13/2017	<0.001				
3/29/2018	<0.001			<0.001	
3/30/2018		<0.001	<0.001		<0.001
1/29/2019	<0.001	<0.001	<0.001	<0.001	<0.001
1/28/2020	<0.001			<0.001	
1/29/2020		<0.001	<0.001		<0.001
3/10/2020	<0.001	<0.001	<0.001	<0.001	<0.001



# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/27/2020 7:00 AM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.005		<0.005	<0.005		
5/6/2016						0.0128 (J)
6/20/2016	0.0071 (J)	0.014 (J)	0.0065 (J)			
6/21/2016				<0.005		0.0102 (J)
8/15/2016	0.0065	0.02	0.0059	<0.005		
8/16/2016						0.012
9/28/2016	0.0075	0.019	0.0075	<0.005		0.012
11/16/2016	0.0081	0.021	0.0094	<0.005		0.013
1/16/2017	0.0076					
1/17/2017		0.02	0.01	<0.005		
1/19/2017						0.011
3/2/2017	0.0073	0.019	0.0076	<0.005		0.013
4/18/2017	0.006	0.016	0.008	<0.005		0.0097
7/13/2017		0.011				
3/29/2018	0.01 (J)	0.03 (J)	0.014 (J)	<0.005		0.017 (J)
6/12/2018	0.0068	0.012	0.0095			
6/13/2018				<0.005		0.0094
10/9/2018	0.0082	0.015	0.011			
10/10/2018				<0.005		0.011
1/28/2019	0.00821	0.0124				
1/29/2019			0.00987	<0.005	0.0184	0.0109
3/25/2019	0.0068	0.026	0.01		0.0052	
3/26/2019				<0.005		0.01
9/10/2019	0.011	0.026	0.011	0.0051	0.0062	0.012
1/28/2020	0.0064	0.026	0.0093	<0.005	<0.005	
1/29/2020						0.0096
3/9/2020	0.0088	0.017				
3/10/2020			0.011	<0.005	<0.005	<0.005

# Time Series

Constituent: Lithium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.0586	0.0252 (J)
5/6/2016		<0.005	0.0113 (J)		
6/21/2016	0.0112 (J)	0.0047 (J)	0.0103 (J)	0.122	0.0228 (J)
8/15/2016				0.12	0.026
8/16/2016	0.014	0.0043 (J)	0.01		
9/28/2016				0.12	0.026
9/29/2016	0.017	0.0048 (J)	0.01		
11/16/2016	0.016	0.0058	0.014	0.13	0.031
1/17/2017			0.014	0.14	0.032
1/18/2017	0.015	0.0051			
3/2/2017	0.015	0.0061	0.013	0.13	0.031
4/18/2017			0.01	0.11	0.023
4/19/2017		0.0042 (J)			
4/25/2017	0.013				
7/13/2017	0.014				
3/29/2018	0.032 (J)			0.17 (J)	
3/30/2018		0.008 (J)	0.017 (J)		0.058 (J)
6/12/2018	0.019				
6/13/2018		0.0054	0.011	0.12	0.035
10/10/2018	0.027	0.0055	0.013	0.13	0.046
1/29/2019	0.0172	0.00537	0.0106	0.112	0.0361
3/26/2019	0.02	0.0051	0.012	0.12	0.043
9/10/2019	0.023	0.0074	0.015	0.11	0.042
1/28/2020	0.022			0.13	
1/29/2020		0.0059	0.012		0.037
3/10/2020	0.018	0.0068	0.014	0.11	0.028

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.0002		<0.0002	<0.0002		
5/6/2016						<0.0002
6/20/2016	<0.0002	<0.0002	<0.0002			
6/21/2016				<0.0002		<0.0002
8/15/2016	<0.0002	8E-05 (J)	<0.0002	<0.0002		
8/16/2016						<0.0002
9/28/2016	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
11/16/2016	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
1/16/2017	<0.0002					
1/17/2017		<0.0002	<0.0002	<0.0002		
1/19/2017						<0.0002
3/2/2017	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
4/18/2017	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002
7/13/2017		<0.0002				
3/29/2018	<0.0002	8.6E-05 (J)	<0.0002	7.4E-05 (J)		<0.0002
6/12/2018	<0.0002	<0.0002	<0.0002			
6/13/2018				<0.0002		<0.0002
10/9/2018	<0.0002	<0.0002	<0.0002			
10/10/2018				<0.0002		<0.0002
1/28/2019	<0.0002	<0.0002				
1/29/2019			<0.0002	<0.0002	<0.0002	<0.0002
1/28/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
1/29/2020						<0.0002
3/9/2020	<0.0002	<0.0002				
3/10/2020			<0.0002	<0.0002	<0.0002	<0.0002

# Time Series

Constituent: Mercury (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.0002	<0.0002
5/6/2016		<0.0002	<0.0002		
6/21/2016	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
8/15/2016				<0.0002	0.00015 (J)
8/16/2016	<0.0002	7.8E-05 (J)	<0.0002		
9/28/2016				<0.0002	<0.0002
9/29/2016	<0.0002	<0.0002	<0.0002		
11/16/2016	8.6E-05 (J)	0.0001 (J)	7E-05 (J)	8E-05 (J)	0.00021
1/17/2017			<0.0002	<0.0002	7.6E-05 (J)
1/18/2017	<0.0002	<0.0002			
3/2/2017	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
4/18/2017			<0.0002	<0.0002	0.00018 (J)
4/19/2017		<0.0002			
4/25/2017	<0.0002				
7/13/2017	<0.0002				
3/29/2018	7.4E-05 (J)			<0.0002	
3/30/2018		<0.0002	<0.0002		0.00013 (J)
6/12/2018	<0.0002				
6/13/2018		<0.0002	<0.0002	<0.0002	0.00074
10/10/2018	<0.0002	<0.0002	<0.0002	<0.0002	0.00013 (J)
1/29/2019	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
1/28/2020	<0.0002			<0.0002	
1/29/2020		<0.0002	<0.0002		0.00012 (J)
3/10/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.015		0.0026 (J)	<0.015		
5/6/2016						0.0021 (J)
6/20/2016	0.00031 (J)	0.0052 (J)	0.0014 (J)			
6/21/2016				<0.015		0.002 (J)
8/15/2016	<0.015	0.0022 (J)	0.0013 (J)	<0.015		
8/16/2016						0.0019 (J)
9/28/2016	<0.015	0.0018 (J)	0.0012 (J)	<0.015		0.0018 (J)
11/16/2016	<0.015	<0.015	<0.015	<0.015		<0.015
1/16/2017	<0.015					
1/17/2017		0.0011 (J)	<0.015	<0.015		
1/19/2017						0.0011 (J)
3/2/2017	<0.015	<0.015	<0.015	<0.015		0.0012 (J)
4/18/2017	<0.015	<0.015	<0.015	<0.015		0.0013 (J)
7/13/2017		<0.015				
3/29/2018	<0.015	<0.015	<0.015	<0.015		0.0017 (J)
6/12/2018	0.0012 (J)	0.0029 (J)	<0.015			
6/13/2018				<0.015		0.00087 (J)
10/9/2018	<0.015	<0.015	<0.015			
10/10/2018				<0.015		<0.015
1/28/2019	<0.015	<0.015				
1/29/2019			<0.015	<0.015	<0.015	<0.015
1/28/2020	0.00064 (J)	0.00085 (J)	0.00095 (J)	<0.015	0.0014 (J)	
1/29/2020						0.0015 (J)
3/9/2020	<0.015	0.0012 (J)				
3/10/2020			0.00093 (J)	<0.015	0.0012 (J)	<0.015

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				0.00351 (J)	<0.015
5/6/2016		<0.015	<0.015		
6/21/2016	0.002 (J)	<0.015	<0.015	<0.015	<0.015
8/15/2016				<0.015	<0.015
8/16/2016	0.0012 (J)	<0.015	<0.015		
9/28/2016				<0.015	<0.015
9/29/2016	0.0014 (J)	<0.015	<0.015		
11/16/2016	<0.015	<0.015	<0.015	<0.015	<0.015
1/17/2017			<0.015	<0.015	<0.015
1/18/2017	<0.015	<0.015			
3/2/2017	<0.015	<0.015	<0.015	<0.015	<0.015
4/18/2017			<0.015	<0.015	0.0037 (J)
4/19/2017		<0.015			
4/25/2017	<0.015				
7/13/2017	<0.015				
3/29/2018	<0.015			<0.015	
3/30/2018		<0.015	<0.015		<0.015
6/12/2018	<0.015				
6/13/2018		<0.015	<0.015	<0.015	<0.015
10/10/2018	<0.015	<0.015	<0.015	<0.015	<0.015
1/29/2019	<0.015	<0.015	<0.015	<0.015	<0.015
1/28/2020	<0.015			<0.015	
1/29/2020		<0.015	<0.015		<0.015
3/10/2020	<0.015	<0.015	<0.015	<0.015	<0.015

# Time Series

Constituent: pH (SU) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	5.94		7.4	7.13		
5/6/2016						6.64
6/20/2016	5.84 (D)	7.82	7.63			
6/21/2016				7.25		6.99
8/15/2016	5.65	7.52	7.54	7.04		
8/16/2016						6.48
9/28/2016	5.72	7.66	7.45	7.09		6.7
11/16/2016	5.65	7.51	7.39	7.6		6.66
1/16/2017	5.52					
1/17/2017		7.52	7.23	6.99		
1/19/2017						6.81
3/2/2017	5.53	7.5	7.55	6.95		6.75
4/18/2017	5.64	7.75	7.43	7.02		6.93
7/13/2017		7.72				
10/10/2017			5.62	7.27		6.99
10/11/2017	6.11	6.35				
3/29/2018	5.35	7.42	7.19	6.95		6.82
6/12/2018	6.23	8.02	7.55			
6/13/2018				7.08		7.01
10/9/2018	5.62 (D)	7.79 (D)	7.8 (D)			
10/10/2018				7.01 (D)		7.04 (D)
1/28/2019	5.49 (D)	7.4 (D)				
1/29/2019			7.63 (D)	6.55 (D)	6.93 (D)	6.87 (D)
3/25/2019	5.27 (D)	7.29 (D)	7.44 (D)		7.1 (D)	
3/26/2019				6.57 (D)		7.01 (D)
9/10/2019	5.97	7.54	7.41	6.99	7.15	7.09
1/28/2020	5.78	7.4	7.46	7.17	7.36	
1/29/2020						7.19
3/9/2020	5.46	7.58				
3/10/2020			7.3	7	7.04	7.11



# Time Series

Constituent: pH (SU) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				7.81	5.96
5/6/2016		7.41	6.85		
6/21/2016	7.61	7.41	6.98	7.2	6
8/15/2016				7.04	5.26
8/16/2016	7.17	7.33	6.73		
9/28/2016				7	5.66
9/29/2016	6.97	7.42	6.81		
11/16/2016	7.03	7.87	6.69	6.73	5.33
1/17/2017			6.77	6.61	5.24
1/18/2017	7.01	7.49			
3/2/2017	7.02	7.37	6.79	6.62	5.21
4/18/2017			6.77	6.7	5.85
4/19/2017		7.48			
4/25/2017	7.02				
7/13/2017	7.17				
10/10/2017	7.24	7.29	7	6.48	5.6
3/29/2018	6.93			6.46	
3/30/2018		7.31	6.68		5.16
6/12/2018	7.29				
6/13/2018		7.37	6.83	6.24	5.79
10/10/2018	7.12 (D)	7.41 (D)	6.69 (D)	6.12 (D)	5.15 (D)
1/29/2019	8.02 (D)	7.03 (D)	6.42 (D)	5.93 (D)	5.46 (D)
3/26/2019	7.29 (D)	6.68 (D)	5.96 (D)	5.19 (D)	7.14 (D)
9/10/2019	10.96 (o)	7.26	6.67	6.03	5.1
1/28/2020	7.25			6.61	
1/29/2020		7.3	6.68		5.76
3/10/2020	7.53	7.3	6.87	6.54	5.5

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.005		<0.005	<0.005		
5/6/2016						<0.005
6/20/2016	<0.005	<0.005	<0.005			
6/21/2016				<0.005		<0.005
8/15/2016	0.00062 (J)	<0.005	<0.005	<0.005		
8/16/2016						<0.005
9/28/2016	0.0003 (J)	<0.005	<0.005	<0.005		<0.005
11/16/2016	<0.005	<0.005	<0.005	<0.005		<0.005
1/16/2017	<0.005					
1/17/2017		<0.005	<0.005	<0.005		
1/19/2017						<0.005
3/2/2017	<0.005	<0.005	<0.005	<0.005		<0.005
4/18/2017	<0.005	<0.005	<0.005	<0.005		<0.005
7/13/2017		<0.005				
3/29/2018	0.00027 (J)	<0.005	<0.005	<0.005		0.0005 (J)
6/12/2018	0.00076 (J)	0.00049 (J)	<0.005			
6/13/2018				<0.005		<0.005
10/9/2018	0.00054 (J)	<0.005	<0.005			
10/10/2018				<0.005		<0.005
1/28/2019	<0.005	<0.005				
1/29/2019			<0.005	<0.005	<0.005	<0.005
1/28/2020	<0.005	<0.005	<0.005	<0.005	<0.005	
1/29/2020						<0.005

# Time Series

Constituent: Selenium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.005	<0.005
5/6/2016		<0.005	<0.005		
6/21/2016	<0.005	<0.005	<0.005	<0.005	<0.005
8/15/2016				<0.005	0.00033 (J)
8/16/2016	<0.005	<0.005	<0.005		
9/28/2016				<0.005	0.00038 (J)
9/29/2016	<0.005	<0.005	<0.005		
11/16/2016	<0.005	<0.005	<0.005	<0.005	<0.005
1/17/2017			<0.005	<0.005	<0.005
1/18/2017	<0.005	<0.005			
3/2/2017	<0.005	<0.005	<0.005	<0.005	<0.005
4/18/2017			<0.005	<0.005	0.0024
4/19/2017		<0.005			
4/25/2017	<0.005				
7/13/2017	<0.005				
3/29/2018	0.00027 (J)			0.00026 (J)	
3/30/2018		0.00045 (J)	0.00044 (J)		0.00027 (J)
6/12/2018	<0.005				
6/13/2018		<0.005	<0.005	<0.005	<0.005
10/10/2018	<0.005	<0.005	<0.005	<0.005	<0.005
1/29/2019	<0.005	<0.005	<0.005	<0.005	<0.005
1/28/2020	<0.005			<0.005	
1/29/2020		<0.005	<0.005		<0.005

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	2.46		4.47	17.8		
5/6/2016						106
6/20/2016	2.5	1	7.7			
6/21/2016				17		210
8/15/2016	1.9	0.73 (J)	7.5	20		
8/16/2016						120
9/28/2016	1.9	<1.3	7.8	21		110
11/16/2016	1.7	<1.3	6.7	20		130
1/16/2017	<1.3					
1/17/2017		<1.3	6.7	19		
1/19/2017						160
3/2/2017	1.4	<1.3	5.6	15		130
4/18/2017	1.3	<1.3	5.1	14		120
7/13/2017		1.4				
10/10/2017	1.1	0.87 (J)	4.9	11		170
6/12/2018	0.82 (J)	4.1	3.8			
6/13/2018				8.7		130
10/9/2018	0.82 (J)	2.2	6.7			
10/10/2018				8.7		140
1/29/2019					7.08	
3/25/2019	<1.3	<1.3	3.4 (J)		1.8 (J)	
3/26/2019				6.3 (J)		130
9/10/2019	1.1	1.8	4.7	5.6	0.6 (J)	140
3/9/2020	4.2	3.4				
3/10/2020			5.2	5	2.4	140

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				116	144
5/6/2016		445	94.2		
6/21/2016	4	290	95	170	160
8/15/2016				170	120
8/16/2016	2.8	270	88		
9/28/2016				170	130
9/29/2016	<1.3	280	94		
11/16/2016	3	280	97	170	130
1/17/2017			100	180	150
1/18/2017	4.1	280			
3/2/2017	4.6	240	100	180	160
4/18/2017			91	160	180
4/19/2017		250			
4/25/2017	4.4				
7/13/2017	4.8				
10/10/2017	4.9	240	110	180	260
6/12/2018	4.1				
6/13/2018		220	110	180	330
10/10/2018	2.5	220	110	190	410
3/26/2019	2.9 (J)	190	110	180	420
9/10/2019	2.5	180	110	180	420
3/10/2020	7.8	170	130	170	370

# Time Series

Constituent: TDS (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	78		129	281		
5/6/2016						282
6/20/2016	80	188	156			
6/21/2016				303		516
8/15/2016	58	180	160	310		
8/16/2016						360
9/28/2016	29	100	91	170		190
11/16/2016	140	270	250	340		410
1/16/2017	36					
1/17/2017		170	140	310		
1/19/2017						400
3/2/2017	78	210	170	330		360
4/18/2017	16	160	140	290		360
7/13/2017		150				
10/10/2017	78	210	190	310		480
6/12/2018	62	150	180			
6/13/2018				230		390
10/9/2018	68	150	170			
10/10/2018				300		260
1/29/2019					280	
3/25/2019	54	210	150		250	
3/26/2019				290		370
9/10/2019	14	160	110	260	230	360
3/9/2020	56	190				
3/10/2020			170	300	260	450

# Time Series

Constituent: TDS (mg/L) Analysis Run 5/27/2020 7:00 AM

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				272	287
5/6/2016		661	380		
6/21/2016	177	692	392	356	297
8/15/2016				330	230
8/16/2016	160	650	360		
9/28/2016				180	130
9/29/2016	190	640	380		
11/16/2016	240	680	420	330	290
1/17/2017			380	310	240
1/18/2017	180	630			
3/2/2017	170	660	410	340	270
4/18/2017			360	300	310
4/19/2017		600			
4/25/2017	170				
7/13/2017	150				
10/10/2017	160	600	400	340	450
6/12/2018	170				
6/13/2018		570	320	320	600
10/10/2018	48	470	300	270	410
3/26/2019	180	530	370	320	630
9/10/2019	140	470	360	260	660
3/10/2020	170	540	390	370	600

# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-11 (bg)	MGWA-5 (bg)	MGWA-6 (bg)	MGWA-6A (bg)	MGWC-1
5/5/2016	<0.001		<0.001	<0.001		
5/6/2016						<0.001
6/20/2016	<0.001	<0.001	<0.001			
6/21/2016				0.0001 (J)		9E-05 (J)
8/15/2016	<0.001	<0.001	<0.001	<0.001		
8/16/2016						<0.001
9/28/2016	<0.001	<0.001	<0.001	<0.001		<0.001
11/16/2016	<0.001	<0.001	<0.001	<0.001		<0.001
1/16/2017	<0.001					
1/17/2017		<0.001	<0.001	<0.001		
1/19/2017						<0.001
3/2/2017	<0.001	<0.001	<0.001	<0.001		<0.001
4/18/2017	<0.001	<0.001	<0.001	<0.001		9.5E-05 (J)
7/13/2017		<0.001				
3/29/2018	<0.001	<0.001	<0.001	<0.001		0.00014 (J)
6/12/2018	<0.001	<0.001	<0.001			
6/13/2018				<0.001		<0.001
10/9/2018	<0.001	<0.001	<0.001			
10/10/2018				<0.001		<0.001
1/28/2019	<0.001	<0.001				
1/29/2019			<0.001	<0.001	<0.001	<0.001
1/28/2020	<0.001	0.00033 (J)	<0.001	0.00027 (J)	<0.001	
1/29/2020						0.00032 (J)
3/9/2020	0.00058 (J)	0.00036 (J)				
3/10/2020			0.00015 (J)	0.00019 (J)	<0.001	<0.001



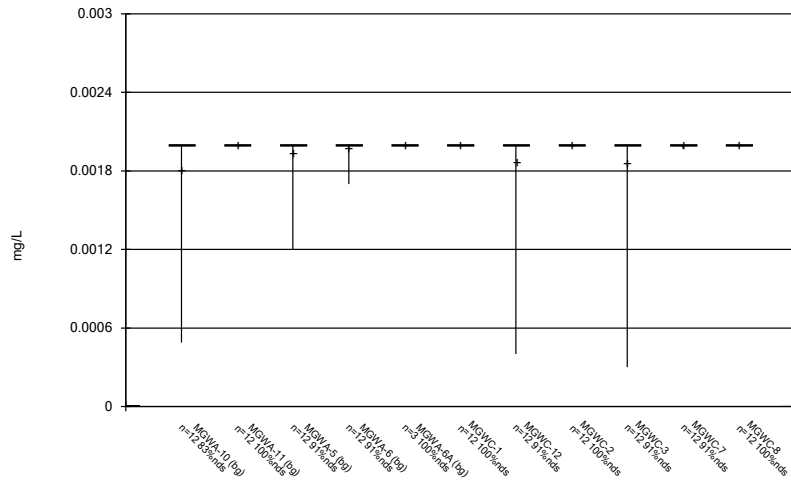
# Time Series

Constituent: Thallium (mg/L) Analysis Run 5/27/2020 7:00 AM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWC-2	MGWC-3	MGWC-7	MGWC-8
5/5/2016				<0.001	<0.001
5/6/2016		<0.001	<0.001		
6/21/2016	<0.001	<0.001	<0.001	<0.001	0.0001 (J)
8/15/2016				<0.001	0.00016 (J)
8/16/2016	<0.001	<0.001	<0.001		
9/28/2016				<0.001	0.00014 (J)
9/29/2016	<0.001	<0.001	<0.001		
11/16/2016	<0.001	<0.001	<0.001	<0.001	9E-05 (J)
1/17/2017			<0.001	<0.001	0.00016 (J)
1/18/2017	<0.001	<0.001			
3/2/2017	<0.001	<0.001	<0.001	<0.001	0.00018 (J)
4/18/2017			<0.001	<0.001	0.00019 (J)
4/19/2017		<0.001			
4/25/2017	<0.001				
7/13/2017	<0.001				
3/29/2018	<0.001			<0.001	
3/30/2018		<0.001	<0.001		0.00027 (J)
6/12/2018	<0.001				
6/13/2018		<0.001	<0.001	<0.001	0.00027 (J)
10/10/2018	<0.001	<0.001	<0.001	<0.001	0.00025 (J)
1/29/2019	<0.001	<0.001	<0.001	<0.001	<0.001
1/28/2020	<0.001			<0.001	
1/29/2020		0.00021 (J)	0.00037 (J)		0.00042 (J)
3/10/2020	0.00015 (J)	<0.001	0.00016 (J)	<0.001	0.00025 (J)

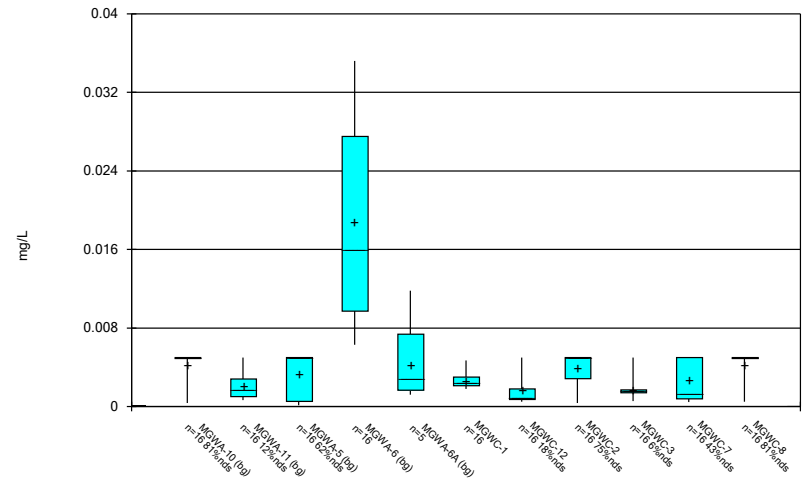
FIGURE B.

Box & Whiskers Plot



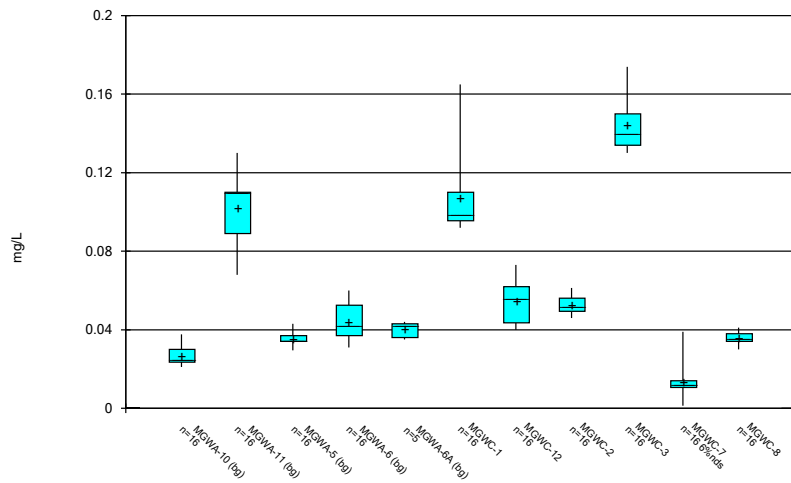
Constituent: Antimony Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



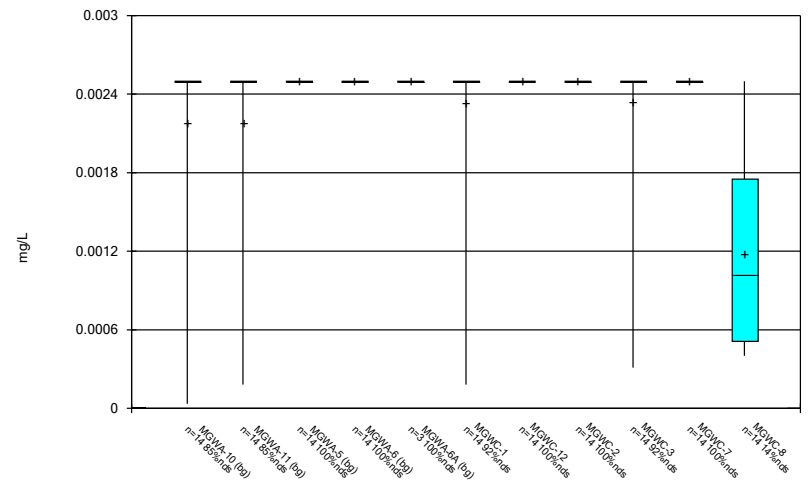
Constituent: Arsenic Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



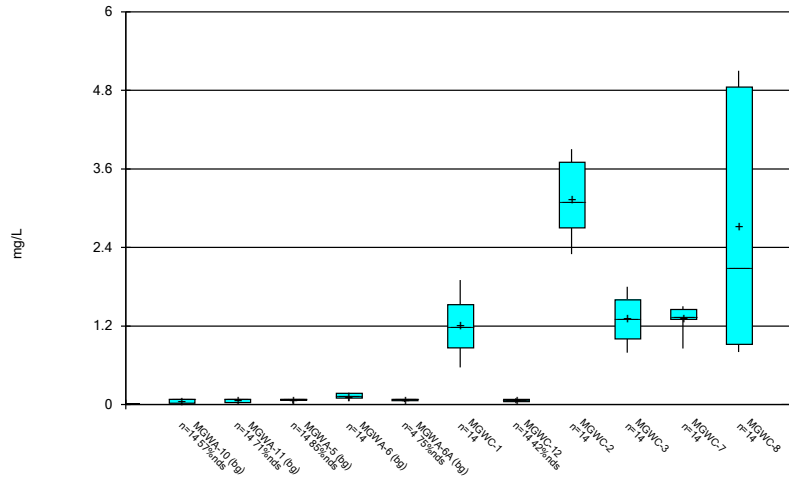
Constituent: Barium Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



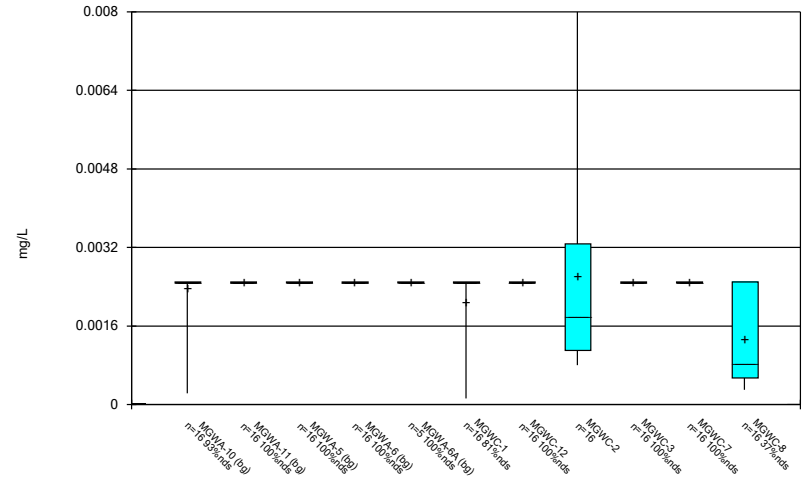
Constituent: Beryllium Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Box & Whiskers Plot



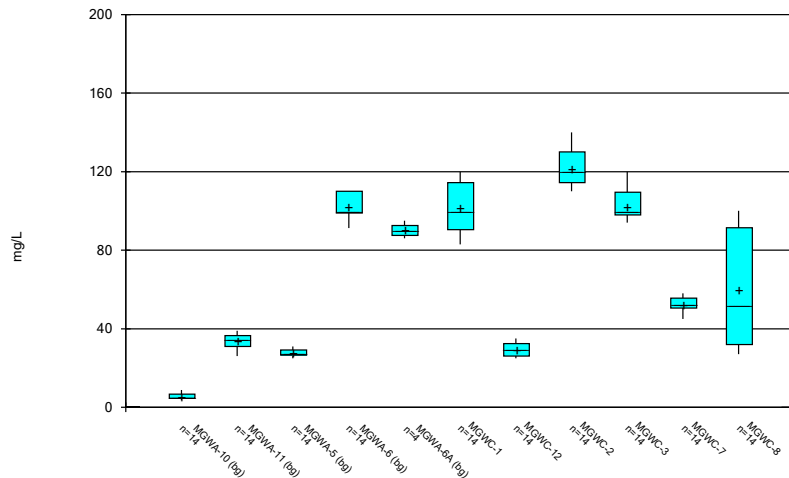
Constituent: Boron Analysis Run 5/26/2020 4:41 PM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Box & Whiskers Plot



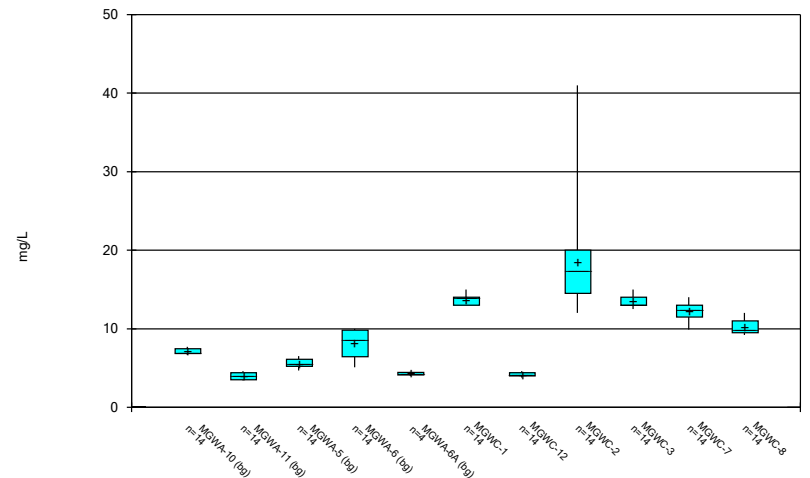
Constituent: Cadmium Analysis Run 5/26/2020 4:41 PM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Box & Whiskers Plot



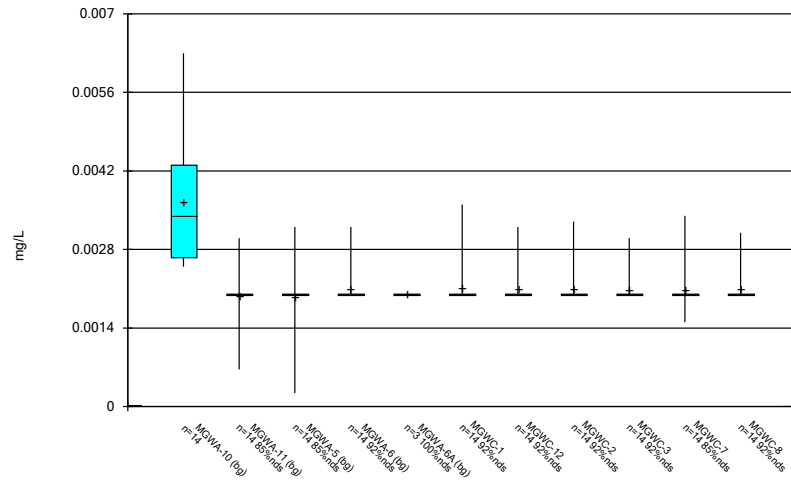
Constituent: Calcium Analysis Run 5/26/2020 4:41 PM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Box & Whiskers Plot



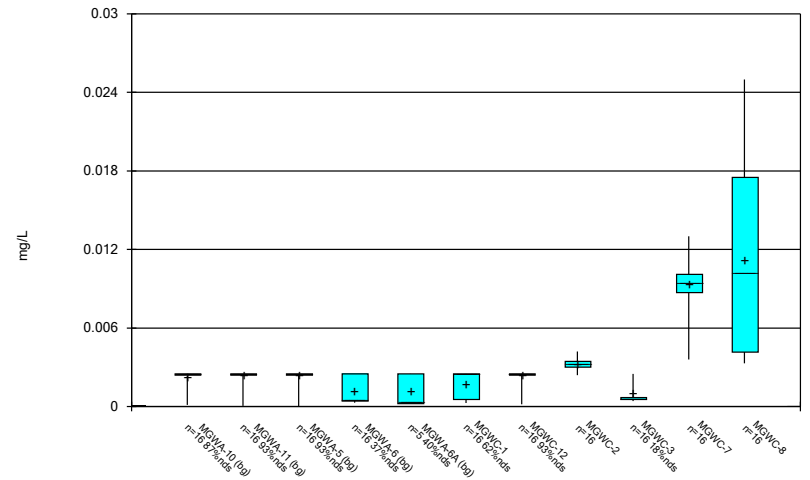
Constituent: Chloride Analysis Run 5/26/2020 4:41 PM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



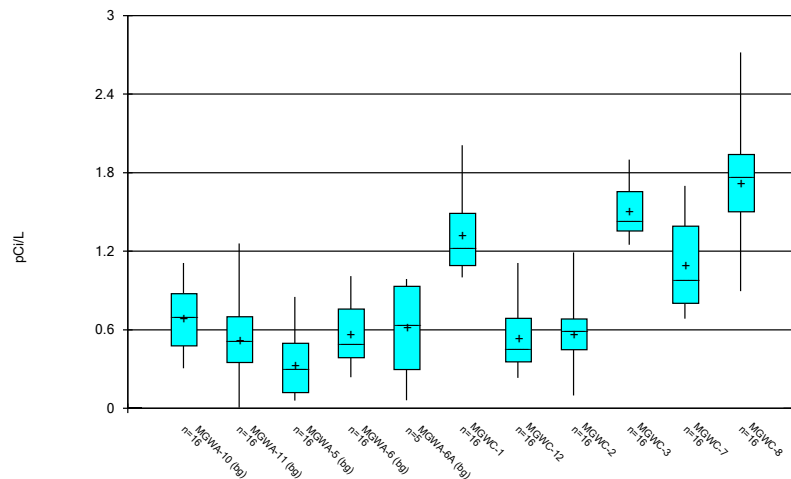
Constituent: Chromium Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



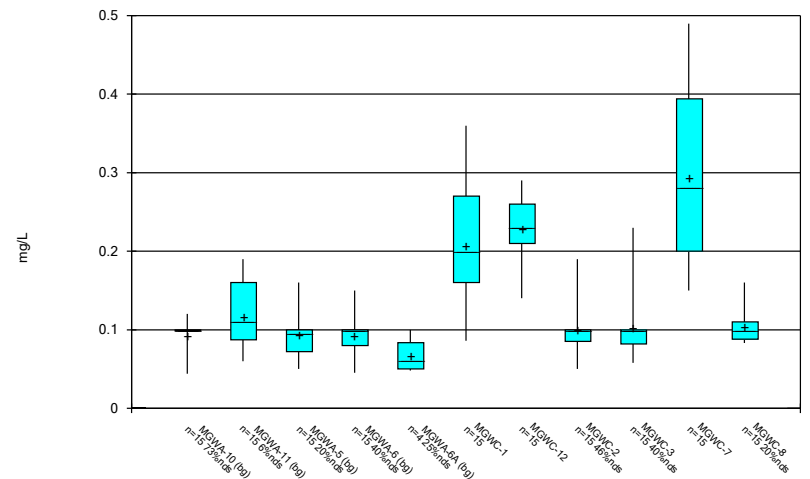
Constituent: Cobalt Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



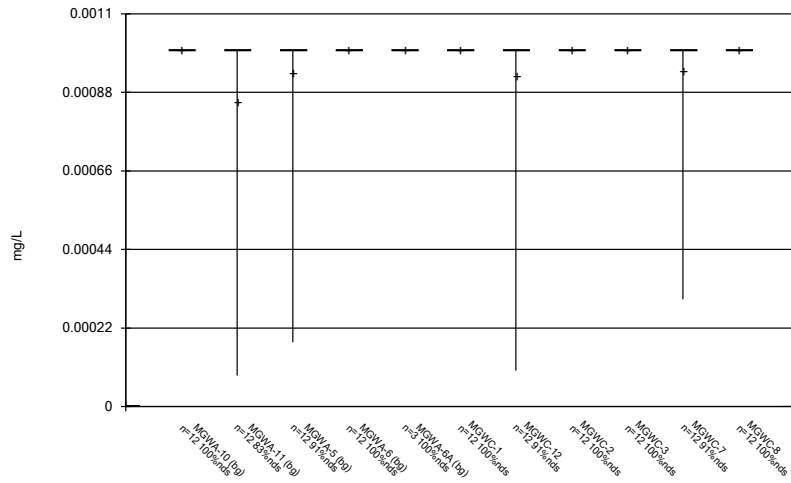
Constituent: Combined Radium 226 + 228 Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



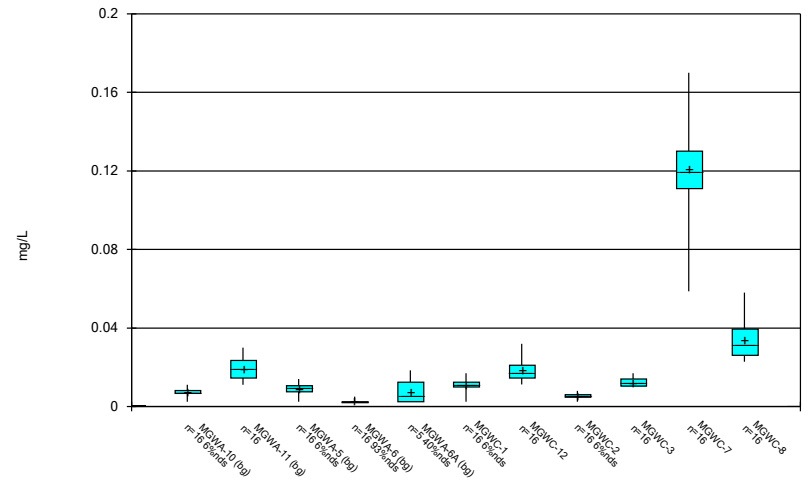
Constituent: Fluoride Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



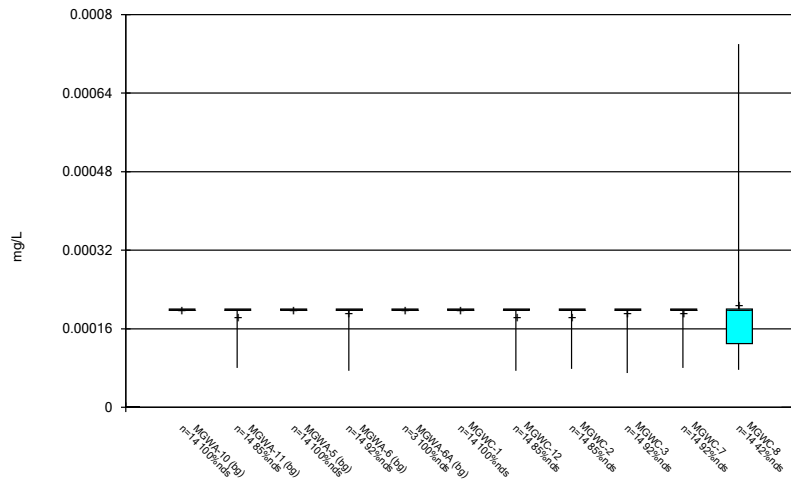
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 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



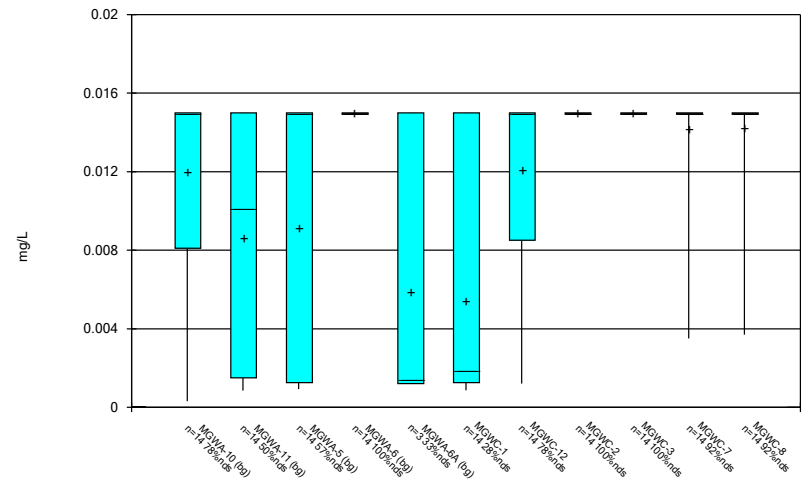
Constituent: Lithium Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



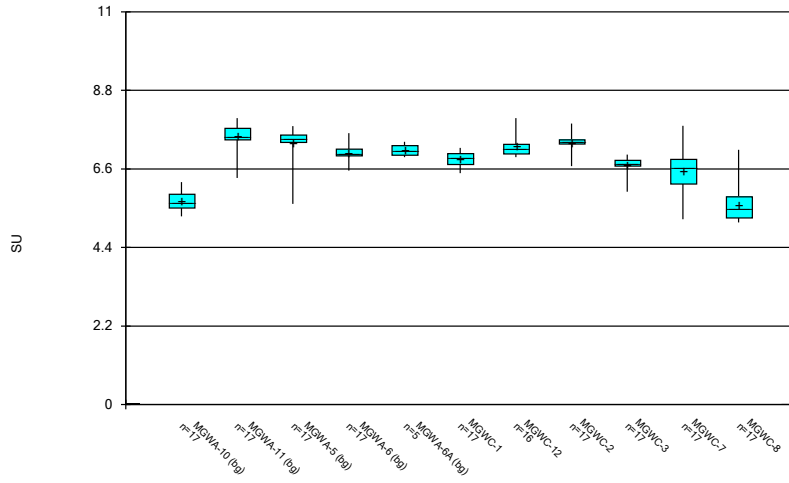
Constituent: Mercury Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



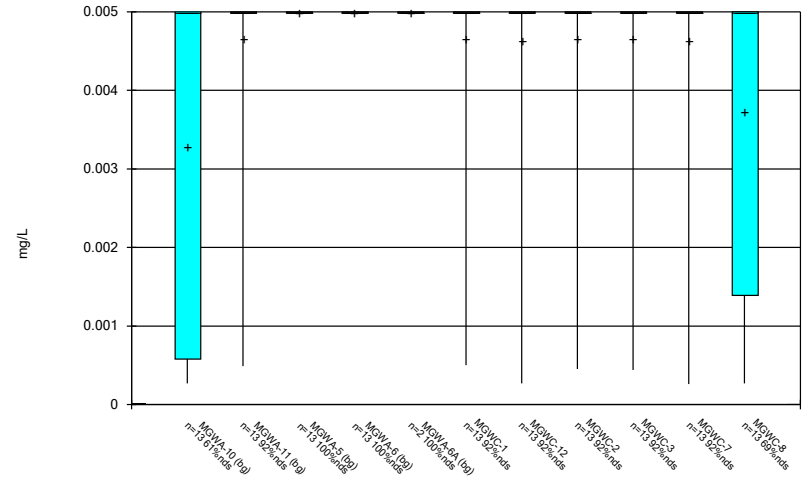
Constituent: Molybdenum Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



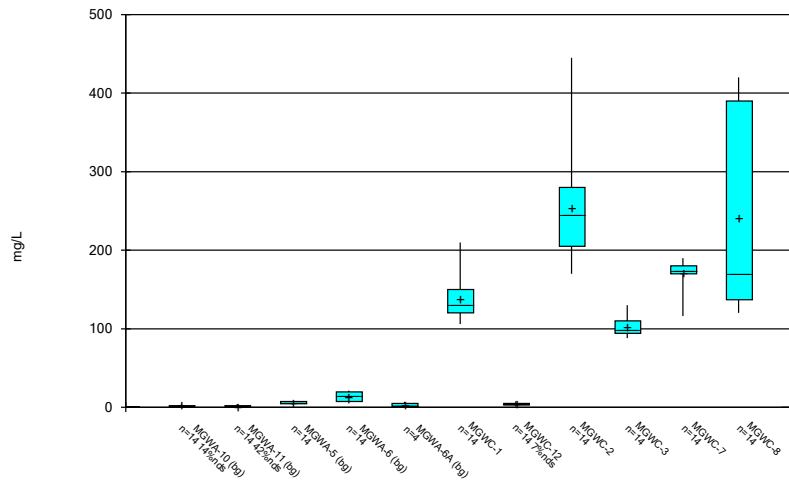
Constituent: pH Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



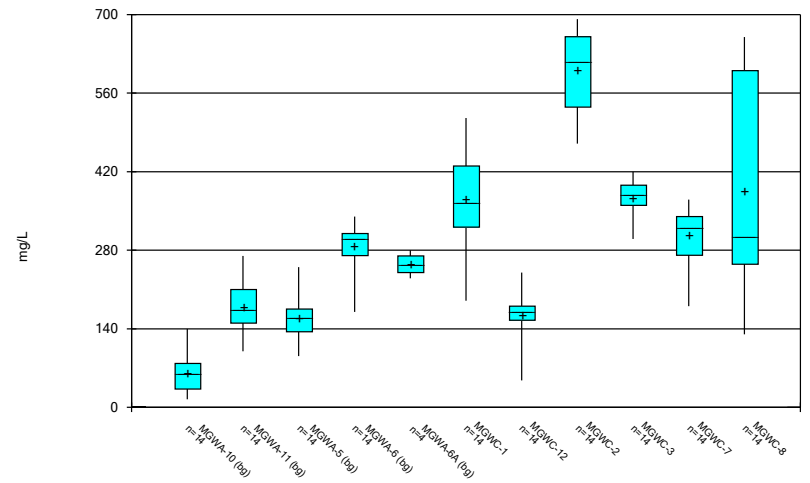
Constituent: Selenium Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



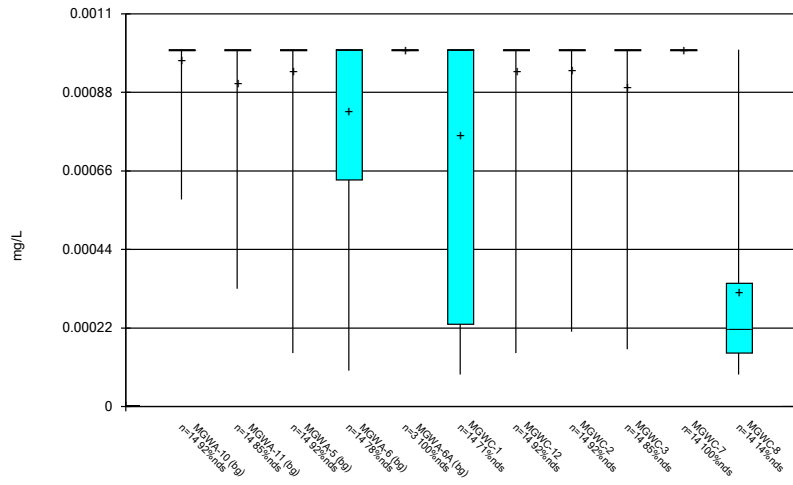
Constituent: Sulfate Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Box & Whiskers Plot



Constituent: TDS Analysis Run 5/26/2020 4:41 PM  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Box & Whiskers Plot



Constituent: Thallium Analysis Run 5/26/2020 4:41 PM  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond



FIGURE C.

# Outlier Summary

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:31 PM

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MGWC-12 pH (SU)

9/10/2019 10.96 (o)

FIGURE D.

# Appendix III Interwell Prediction Limits - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:47 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NBg	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MGWC-1	0.18	n/a	3/10/2020	1.9	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-2	0.18	n/a	3/10/2020	2.3	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-3	0.18	n/a	3/10/2020	1.3	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-7	0.18	n/a	3/10/2020	1.4	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Boron (mg/L)	MGWC-8	0.18	n/a	3/10/2020	4	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
Calcium (mg/L)	MGWC-1	110	n/a	3/10/2020	120	Yes	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Chloride (mg/L)	MGWC-1	9.6	n/a	3/10/2020	14	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-2	9.6	n/a	3/10/2020	12	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-3	9.6	n/a	3/10/2020	15	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-7	9.6	n/a	3/10/2020	10	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Chloride (mg/L)	MGWC-8	9.6	n/a	3/10/2020	12	Yes	60	6.096	1.852	0	None	No	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-1	25	n/a	3/10/2020	140	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-2	25	n/a	3/10/2020	170	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-3	25	n/a	3/10/2020	130	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-7	25	n/a	3/10/2020	170	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
Sulfate (mg/L)	MGWC-8	25	n/a	3/10/2020	370	Yes	60	1.129	1.109	13.33	None	In(x)	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-1	340	n/a	3/10/2020	450	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-2	340	n/a	3/10/2020	540	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-3	340	n/a	3/10/2020	390	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-7	340	n/a	3/10/2020	370	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	
TDS (mg/L)	MGWC-8	340	n/a	3/10/2020	600	Yes	60	176.6	89.2	0	None	No	0.001254	Param Inter 1 of 2	

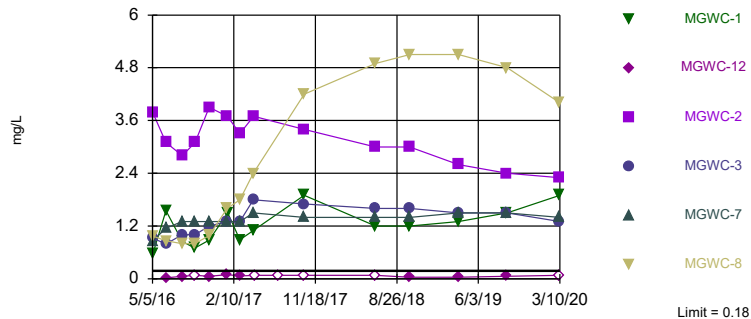
# Appendix III Interwell Prediction Limits - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:47 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg	NBq	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
<b>Boron (mg/L)</b>	<b>MGWC-1</b>	<b>0.18</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>1.9</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>55</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (NDs) 1 of 2</b>
Boron (mg/L)	MGWC-12	0.18	n/a	3/10/2020	0.08ND	No	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
<b>Boron (mg/L)</b>	<b>MGWC-2</b>	<b>0.18</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>2.3</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>55</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (NDs) 1 of 2</b>
Boron (mg/L)	MGWC-3	0.18	n/a	3/10/2020	1.3	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
<b>Boron (mg/L)</b>	<b>MGWC-7</b>	<b>0.18</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>1.4</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>55</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (NDs) 1 of 2</b>
Boron (mg/L)	MGWC-8	0.18	n/a	3/10/2020	4	Yes	60	n/a	n/a	55	n/a	n/a	n/a	0.0005218	NP Inter (NDs) 1 of 2
<b>Calcium (mg/L)</b>	<b>MGWC-1</b>	<b>110</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>120</b>	<b>Yes</b>	<b>60</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0005218</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	MGWC-12	110	n/a	3/10/2020	30	No	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-2	110	n/a	3/10/2020	110	No	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-3	110	n/a	3/10/2020	110	No	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-7	110	n/a	3/10/2020	55	No	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
Calcium (mg/L)	MGWC-8	110	n/a	3/10/2020	100	No	60	n/a	n/a	0	n/a	n/a	n/a	0.0005218	NP Inter (normality) 1 of 2
<b>Chloride (mg/L)</b>	<b>MGWC-1</b>	<b>9.6</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>14</b>	<b>Yes</b>	<b>60</b>	<b>6.096</b>	<b>1.852</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
Chloride (mg/L)	MGWC-12	9.6	n/a	3/10/2020	4.1	No	60	6.096	1.852	0	None	No	n/a	0.001254	Param Inter 1 of 2
<b>Chloride (mg/L)</b>	<b>MGWC-2</b>	<b>9.6</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>12</b>	<b>Yes</b>	<b>60</b>	<b>6.096</b>	<b>1.852</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
Chloride (mg/L)	MGWC-3	9.6	n/a	3/10/2020	15	Yes	60	6.096	1.852	0	None	No	n/a	0.001254	Param Inter 1 of 2
<b>Chloride (mg/L)</b>	<b>MGWC-7</b>	<b>9.6</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>10</b>	<b>Yes</b>	<b>60</b>	<b>6.096</b>	<b>1.852</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
Chloride (mg/L)	MGWC-8	9.6	n/a	3/10/2020	12	Yes	60	6.096	1.852	0	None	No	n/a	0.001254	Param Inter 1 of 2
Fluoride (mg/L)	MGWC-1	0.19	n/a	3/10/2020	0.086	No	64	n/a	n/a	34.38	n/a	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-12	0.19	n/a	3/10/2020	0.15	No	64	n/a	n/a	34.38	n/a	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-2	0.19	n/a	3/10/2020	0.05	No	64	n/a	n/a	34.38	n/a	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-3	0.19	n/a	3/10/2020	0.058	No	64	n/a	n/a	34.38	n/a	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-7	0.19	n/a	3/10/2020	0.18	No	64	n/a	n/a	34.38	n/a	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MGWC-8	0.19	n/a	3/10/2020	0.084	No	64	n/a	n/a	34.38	n/a	n/a	n/a	0.000468	NP Inter (normality) 1 of 2
pH (SU)	MGWC-1	8.0	5.3	3/10/2020	7.11	No	73	n/a	n/a	0	n/a	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-12	8.0	5.3	3/10/2020	7.53	No	73	n/a	n/a	0	n/a	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-2	8.0	5.3	3/10/2020	7.3	No	73	n/a	n/a	0	n/a	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-3	8.0	5.3	3/10/2020	6.87	No	73	n/a	n/a	0	n/a	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-7	8.0	5.3	3/10/2020	6.54	No	73	n/a	n/a	0	n/a	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
pH (SU)	MGWC-8	8.0	5.3	3/10/2020	5.5	No	73	n/a	n/a	0	n/a	n/a	n/a	0.0007215	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>MGWC-1</b>	<b>25</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>140</b>	<b>Yes</b>	<b>60</b>	<b>1.129</b>	<b>1.109</b>	<b>13.33</b>	<b>None</b>	<b>In(x)</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
Sulfate (mg/L)	MGWC-12	25	n/a	3/10/2020	7.8	No	60	1.129	1.109	13.33	None	In(x)	n/a	0.001254	Param Inter 1 of 2
<b>Sulfate (mg/L)</b>	<b>MGWC-2</b>	<b>25</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>170</b>	<b>Yes</b>	<b>60</b>	<b>1.129</b>	<b>1.109</b>	<b>13.33</b>	<b>None</b>	<b>In(x)</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
Sulfate (mg/L)	MGWC-3	25	n/a	3/10/2020	130	Yes	60	1.129	1.109	13.33	None	In(x)	n/a	0.001254	Param Inter 1 of 2
<b>Sulfate (mg/L)</b>	<b>MGWC-7</b>	<b>25</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>170</b>	<b>Yes</b>	<b>60</b>	<b>1.129</b>	<b>1.109</b>	<b>13.33</b>	<b>None</b>	<b>In(x)</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
Sulfate (mg/L)	MGWC-8	25	n/a	3/10/2020	370	Yes	60	1.129	1.109	13.33	None	In(x)	n/a	0.001254	Param Inter 1 of 2
<b>TDS (mg/L)</b>	<b>MGWC-1</b>	<b>340</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>450</b>	<b>Yes</b>	<b>60</b>	<b>176.6</b>	<b>89.2</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
TDS (mg/L)	MGWC-12	340	n/a	3/10/2020	170	No	60	176.6	89.2	0	None	No	n/a	0.001254	Param Inter 1 of 2
<b>TDS (mg/L)</b>	<b>MGWC-2</b>	<b>340</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>540</b>	<b>Yes</b>	<b>60</b>	<b>176.6</b>	<b>89.2</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
TDS (mg/L)	MGWC-3	340	n/a	3/10/2020	390	Yes	60	176.6	89.2	0	None	No	n/a	0.001254	Param Inter 1 of 2
<b>TDS (mg/L)</b>	<b>MGWC-7</b>	<b>340</b>	<b>n/a</b>	<b>3/10/2020</b>	<b>370</b>	<b>Yes</b>	<b>60</b>	<b>176.6</b>	<b>89.2</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>n/a</b>	<b>0.001254</b>	<b>Param Inter 1 of 2</b>
TDS (mg/L)	MGWC-8	340	n/a	3/10/2020	600	Yes	60	176.6	89.2	0	None	No	n/a	0.001254	Param Inter 1 of 2

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit  
Interwell Non-parametric

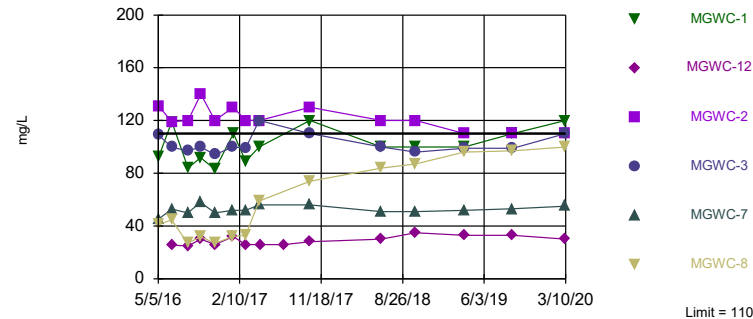


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 60 background values. 55% NDs. Annual per-constituent alpha = 0.006244. Individual comparison alpha = 0.0005218 (1 of 2). Comparing 6 points to limit.

Constituent: Boron Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Exceeds Limit: MGWC-1

Prediction Limit  
Interwell Non-parametric

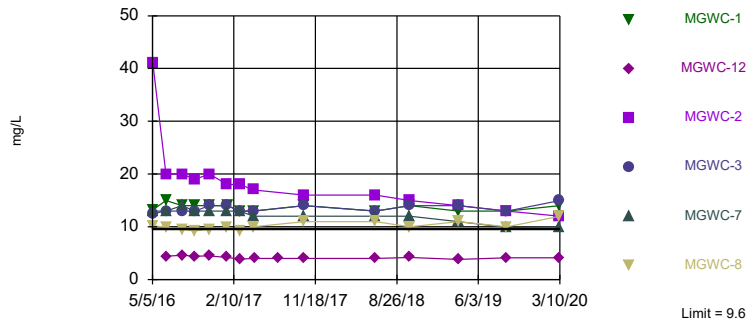


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 60 background values. Annual per-constituent alpha = 0.006244. Individual comparison alpha = 0.0005218 (1 of 2). Comparing 6 points to limit.

Constituent: Calcium Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit  
Interwell Parametric

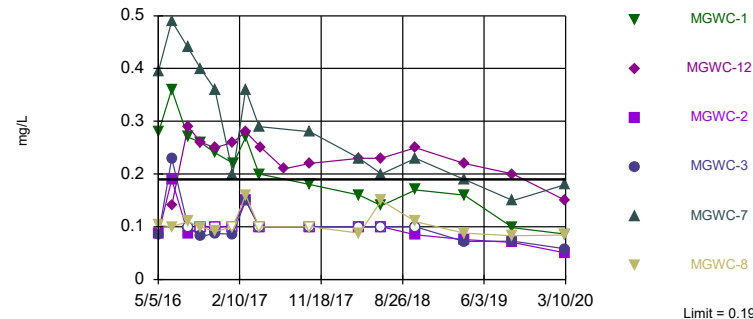


Background Data Summary: Mean=6.096, Std. Dev.=1.852, n=60. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9592, critical = 0.945. Kappa = 1.881 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001254. Comparing 6 points to limit.

Constituent: Chloride Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Within Limit

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 64 background values. 34.38% NDs. Annual per-constituent alpha = 0.005602. Individual comparison alpha = 0.000468 (1 of 2). Comparing 6 points to limit.

Constituent: Fluoride Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

# Prediction Limit

Constituent: Boron (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWC-8	MGWA-6 (bg)	MGWA-5 (bg)	MGWC-7	MGWC-1	MGWC-3	MGWC-2	MGWA-11 (bg)
5/5/2016	<0.08	0.976	0.157	<0.08	0.855				
5/6/2016						0.567	0.926	3.78	
6/20/2016	0.011 (J)			0.013 (J)					0.017 (J)
6/21/2016		0.862	0.124		1.15	1.55	0.792	3.1	
8/15/2016	0.022 (J)	0.8	0.18	0.023 (J)	1.3				0.032 (J)
8/16/2016						0.85	1	2.8	
9/28/2016	0.023 (J)	0.8	0.17	<0.08	1.3	0.7			0.021 (J)
9/29/2016							1	3.1	
11/16/2016	<0.08	0.98	0.17	<0.08	1.3	0.88	1.2	3.9	<0.08
1/16/2017	0.021 (J)								
1/17/2017		1.6	0.17	<0.08	1.3		1.3		<0.08
1/18/2017								3.7	
1/19/2017						1.5			
3/2/2017	<0.08	1.8	0.14	<0.08	1.3	0.89	1.3	3.3	<0.08
4/18/2017	<0.08	2.4	0.14	<0.08	1.5	1.1	1.8		<0.08
4/19/2017								3.7	
4/25/2017									
7/13/2017									<0.08
10/10/2017	0.021 (J)	4.2	0.12	<0.08	1.4	1.9	1.7	3.4	0.025 (J)
6/12/2018	<0.08			<0.08					<0.08
6/13/2018		4.9	0.11		1.4	1.2	1.6	3	
10/9/2018	<0.08			<0.08					<0.08
10/10/2018		5.1	0.096 (J)		1.4	1.2	1.6	3	
1/29/2019									
3/25/2019	<0.08			<0.08					<0.08
3/26/2019		5.1	0.079 (J)		1.5	1.3	1.5	2.6	
9/10/2019	<0.08	4.8	0.097	<0.08	1.5	1.5	1.5	2.4	<0.08
3/9/2020	0.045 (J)								<0.08
3/10/2020		4	0.051 (J)	<0.08	1.4	1.9	1.3	2.3	

# Prediction Limit

Constituent: Boron (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	0.0201 (J)	
8/15/2016		
8/16/2016	0.055	
9/28/2016		
9/29/2016	<0.08	
11/16/2016	0.055	
1/16/2017		
1/17/2017		
1/18/2017	0.097	
1/19/2017		
3/2/2017	0.064	
4/18/2017		
4/19/2017		
4/25/2017	<0.08	
7/13/2017	<0.08	
10/10/2017	<0.08	
6/12/2018	<0.08	
6/13/2018		
10/9/2018		
10/10/2018	0.034 (J)	
1/29/2019		<0.08
3/25/2019		<0.08
3/26/2019	0.032 (J)	
9/10/2019	0.06 (J)	0.04 (J)
3/9/2020		
3/10/2020	<0.08	<0.08



# Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWC-8	MGWA-6 (bg)	MGWA-5 (bg)	MGWC-7	MGWC-1	MGWC-3	MGWC-2	MGWA-11 (bg)
5/5/2016	8.83	41.2	105	27	45				
5/6/2016						92.5	109	131	
6/20/2016	8.1			29.4					35.5
6/21/2016		44.7	91.2		52.8	119	99.7	119	
8/15/2016	6.1	27	94	26	50				34
8/16/2016						84	97	120	
9/28/2016	7.2	32	110	31	58	92			38
9/29/2016							100	140	
11/16/2016	5.2	27	98	26	50	83	94	120	33
1/16/2017	3.8								
1/17/2017		32	100	29	52		100		34
1/18/2017								130	
1/19/2017						110			
3/2/2017	5.4	33	100	28	52	89	99	120	35
4/18/2017	5	59	110	27	56	100	120		33
4/19/2017								120	
4/25/2017									
7/13/2017									30
10/10/2017	4.8	74	110	31	56	120	110	130	39
6/12/2018	4.8			25					26
6/13/2018		84	100		51	100	100	120	
10/9/2018	4.5			29					29
10/10/2018		87	100		51	100	96	120	
1/29/2019									
3/25/2019	4.6			27					37
3/26/2019		96	100		52	100	99	110	
9/10/2019	4.9	97	110	27	53	110	99	110	36
3/9/2020	4								32
3/10/2020		100	100	29	55	120	110	110	

# Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	25.5	
8/15/2016		
8/16/2016	25	
9/28/2016		
9/29/2016	30	
11/16/2016	26	
1/16/2017		
1/17/2017		
1/18/2017	32	
1/19/2017		
3/2/2017	26	
4/18/2017		
4/19/2017		
4/25/2017	26	
7/13/2017	26	
10/10/2017	28	
6/12/2018	30	
6/13/2018		
10/9/2018		
10/10/2018	35	
1/29/2019		95.1
3/25/2019		89
3/26/2019	33	
9/10/2019	33	86
3/9/2020		
3/10/2020	30	90

# Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWC-8	MGWA-6 (bg)	MGWA-5 (bg)	MGWC-7	MGWC-1	MGWC-3	MGWC-2	MGWA-11 (bg)
5/5/2016	7.35	10.1	9.67	6.51	13				
5/6/2016						13.2	12.5	41	
6/20/2016	7			5.9					4.3
6/21/2016		10	9.2		13	15	13	20	
8/15/2016	7.5	9.5	10	6.4	14				4.1
8/16/2016						14	13	20	
9/28/2016	7	9.2	10	6.1	13	14			3.9
9/29/2016							13	19	
11/16/2016	7.5	9.5	10	6.1	13	14	14	20	4.1
1/16/2017	7.7								
1/17/2017		10	9.4	5.7	13		14		3.9
1/18/2017								18	
1/19/2017						14			
3/2/2017	6.9	9.3	8.6	5.3	13	13	13	18	3.5
4/18/2017	6.8	10	8.9	5.3	12	13	13		3.7
4/19/2017								17	
4/25/2017									
7/13/2017									4.2
10/10/2017	6.9	11	8.3	5.3	12	14	14	16	3.4
6/12/2018	6.7			5.1					4.6
6/13/2018		11	7		12	13	13	16	
10/9/2018	7.1			5.6					4.5
10/10/2018		10	6.9		12	14	14	15	
1/29/2019									
3/25/2019	6.8			4.7					3.4
3/26/2019		11	5.8		11	13	14	14	
9/10/2019	7	10	6	5.1	9.9	13	13	13	3.5
3/9/2020	7.4								4.5
3/10/2020		12	5.1	5.4	10	14	15	12	

# Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	4.4	
8/15/2016		
8/16/2016	4.6	
9/28/2016		
9/29/2016	4.4	
11/16/2016	4.5	
1/16/2017		
1/17/2017		
1/18/2017	4.2	
1/19/2017		
3/2/2017	3.9	
4/18/2017		
4/19/2017		
4/25/2017	4	
7/13/2017	4	
10/10/2017	4	
6/12/2018	4	
6/13/2018		
10/9/2018		
10/10/2018	4.2	
1/29/2019		4.51
3/25/2019		4.4
3/26/2019	3.8	
9/10/2019	4.1	4.2
3/9/2020		
3/10/2020	4.1	4

# Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWA-6 (bg)	MGWC-8	MGWA-5 (bg)	MGWC-7	MGWC-3	MGWC-2	MGWC-1	MGWA-11 (bg)
5/5/2016	0.046 (J)	0.091 (J)	0.103 (J)	0.132 (J)	0.394				
5/6/2016						0.086 (J)	0.088 (J)	0.28 (J)	
6/20/2016	<0.1			0.05 (J)					0.06 (J)
6/21/2016		0.08 (J)	0.1 (J)		0.49	0.23 (J)	0.19 (J)	0.36	
8/15/2016	<0.1	<0.1	0.11 (J)	0.1 (J)	0.44				0.1 (J)
8/16/2016						<0.1	0.087 (J)	0.27	
9/28/2016	<0.1	0.084 (J)	0.1 (J)	0.11 (J)	0.4			0.26	0.097 (J)
9/29/2016						0.082 (J)	<0.1		
11/16/2016	<0.1	0.084 (J)	0.091 (J)	0.093 (J)	0.36	0.087 (J)	<0.1	0.24	0.12 (J)
1/16/2017	<0.1								
1/17/2017		0.099 (J)	<0.1	0.095 (J)	0.2	0.086 (J)			0.11 (J)
1/18/2017							<0.1		
1/19/2017								0.22	
3/2/2017	0.12 (J)	0.15 (J)	0.16 (J)	0.16 (J)	0.36	0.15 (J)	0.15 (J)	0.27	0.18 (J)
4/18/2017	<0.1	<0.1	<0.1	<0.1	0.29	<0.1		0.2	0.11 (J)
4/19/2017							<0.1		
4/25/2017									
7/13/2017									0.12 (J)
10/10/2017	<0.1	<0.1	<0.1	<0.1	0.28	<0.1	<0.1	0.18 (J)	0.086 (J)
3/29/2018	<0.1	<0.1		0.084 (J)	0.23			0.16 (J)	<0.1
3/30/2018			0.088 (J)			<0.1	<0.1		
6/12/2018	<0.1			<0.1					0.16 (J)
6/13/2018		<0.1	0.15 (J)		0.2	<0.1	<0.1	0.14 (J)	
10/9/2018	<0.1			0.086 (J)					0.16 (J)
10/10/2018		<0.1	0.11 (J)		0.23	<0.1	0.085 (J)	0.17 (J)	
1/29/2019									
3/25/2019	<0.1			0.072 (J)					0.087 (J)
3/26/2019		0.065 (J)	0.088 (J)		0.19 (J)	0.072 (J)	0.076 (J)	0.16	
9/10/2019	0.044 (J)	0.076 (J)	0.083 (J)	0.068 (J)	0.15	0.073 (J)	0.07 (J)	0.098 (J)	0.075 (J)
3/9/2020	0.061 (J)								0.19
3/10/2020		0.045 (J)	0.084 (J)	0.055 (J)	0.18	0.058 (J)	0.05 (J)	0.086 (J)	

# Prediction Limit

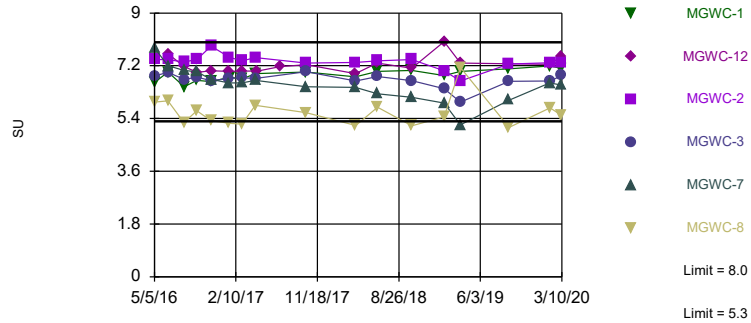
Constituent: Fluoride (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	0.14 (J)	
8/15/2016		
8/16/2016	0.29	
9/28/2016		
9/29/2016	0.26	
11/16/2016	0.25	
1/16/2017		
1/17/2017		
1/18/2017	0.26	
1/19/2017		
3/2/2017	0.28	
4/18/2017		
4/19/2017		
4/25/2017	0.25	
7/13/2017	0.21	
10/10/2017	0.22	
3/29/2018	0.23	
3/30/2018		
6/12/2018	0.23	
6/13/2018		
10/9/2018		
10/10/2018	0.25	
1/29/2019		<0.1
3/25/2019		0.067 (J)
3/26/2019	0.22	
9/10/2019	0.2	0.052 (J)
3/9/2020		
3/10/2020	0.15	0.048 (J)

Within Limits

Prediction Limit  
Interwell Non-parametric



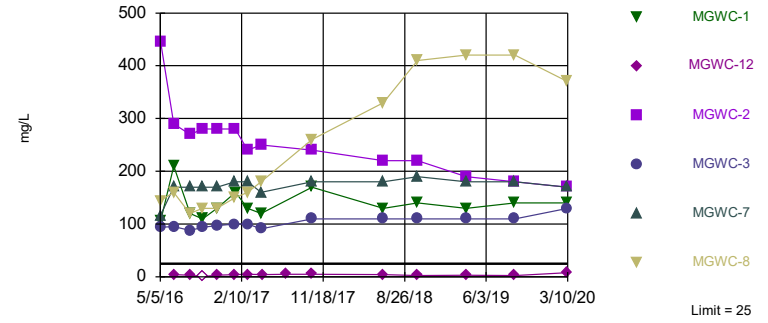
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 73 background values. Annual per-constituent alpha = 0.008641. Individual comparison alpha = 0.0007215 (1 of 2). Comparing 6 points to limit.

Constituent: pH Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Hollow symbols indicate censored values.

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit  
Interwell Parametric

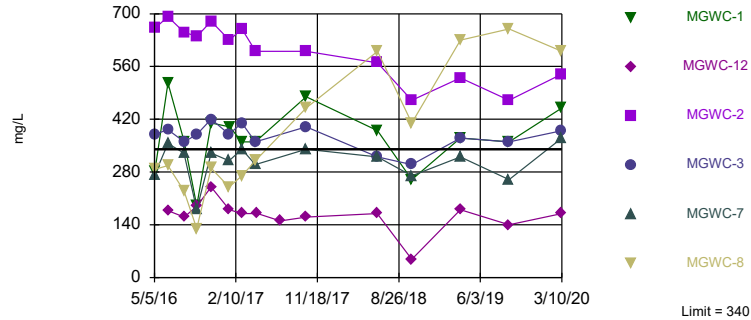


Background Data Summary (based on natural log transformation): Mean=1.129, Std. Dev.=1.109, n=60, 13.33% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9554, critical = 0.945. Kappa = 1.881 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001254. Comparing 6 points to limit.

Constituent: Sulfate Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit  
Interwell Parametric



Background Data Summary: Mean=176.6, Std. Dev.=89.2, n=60. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9756, critical = 0.945. Kappa = 1.881 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001254. Comparing 6 points to limit.

Constituent: TDS Analysis Run 5/26/2020 4:45 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

# Prediction Limit

Constituent: pH (SU) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWC-8	MGWA-6 (bg)	MGWA-5 (bg)	MGWC-7	MGWC-3	MGWC-1	MGWC-2	MGWA-11 (bg)
5/5/2016	5.94	5.96	7.13	7.4	7.81				
5/6/2016						6.85	6.64	7.41	
6/20/2016	5.84 (D)			7.63					7.82
6/21/2016		6	7.25		7.2	6.98	6.99	7.41	
8/15/2016	5.65	5.26	7.04	7.54	7.04				7.52
8/16/2016						6.73	6.48	7.33	
9/28/2016	5.72	5.66	7.09	7.45	7		6.7		7.66
9/29/2016						6.81		7.42	
11/16/2016	5.65	5.33	7.6	7.39	6.73	6.69	6.66	7.87	7.51
1/16/2017	5.52								
1/17/2017		5.24	6.99	7.23	6.61	6.77			7.52
1/18/2017								7.49	
1/19/2017							6.81		
3/2/2017	5.53	5.21	6.95	7.55	6.62	6.79	6.75	7.37	7.5
4/18/2017	5.64	5.85	7.02	7.43	6.7	6.77	6.93		7.75
4/19/2017								7.48	
4/25/2017									
7/13/2017									7.72
10/10/2017		5.6	7.27	5.62	6.48	7	6.99	7.29	
10/11/2017	6.11								6.35
3/29/2018	5.35		6.95	7.19	6.46		6.82		7.42
3/30/2018		5.16				6.68		7.31	
6/12/2018	6.23			7.55					8.02
6/13/2018		5.79	7.08		6.24	6.83	7.01	7.37	
10/9/2018	5.62 (D)			7.8 (D)					7.79 (D)
10/10/2018		5.15 (D)	7.01 (D)		6.12 (D)	6.69 (D)	7.04 (D)	7.41 (D)	
1/28/2019	5.49 (D)								7.4 (D)
1/29/2019		5.46 (D)	6.55 (D)	7.63 (D)	5.93 (D)	6.42 (D)	6.87 (D)	7.03 (D)	
3/25/2019	5.27 (D)			7.44 (D)					7.29 (D)
3/26/2019		7.14 (D)	6.57 (D)		5.19 (D)	5.96 (D)	7.01 (D)	6.68 (D)	
9/10/2019	5.97	5.1	6.99	7.41	6.03	6.67	7.09	7.26	7.54
1/28/2020	5.78		7.17	7.46	6.61				7.4
1/29/2020		5.76				6.68	7.19	7.3	
3/9/2020	5.46								7.58
3/10/2020		5.5	7	7.3	6.54	6.87	7.11	7.3	



# Prediction Limit

Constituent: pH (SU) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	7.61	
8/15/2016		
8/16/2016	7.17	
9/28/2016		
9/29/2016	6.97	
11/16/2016	7.03	
1/16/2017		
1/17/2017		
1/18/2017	7.01	
1/19/2017		
3/2/2017	7.02	
4/18/2017		
4/19/2017		
4/25/2017	7.02	
7/13/2017	7.17	
10/10/2017	7.24	
10/11/2017		
3/29/2018	6.93	
3/30/2018		
6/12/2018	7.29	
6/13/2018		
10/9/2018		
10/10/2018	7.12 (D)	
1/28/2019		
1/29/2019	8.02 (D)	6.93 (D)
3/25/2019		7.1 (D)
3/26/2019	7.29 (D)	
9/10/2019	10.96 (o)	7.15
1/28/2020	7.25	7.36
1/29/2020		
3/9/2020		
3/10/2020	7.53	7.04

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWC-8	MGWA-6 (bg)	MGWA-5 (bg)	MGWC-7	MGWC-1	MGWC-3	MGWC-2	MGWA-11 (bg)
5/5/2016	2.46	144	17.8	4.47	116				
5/6/2016						106	94.2	445	
6/20/2016	2.5			7.7					1
6/21/2016		160	17		170	210	95	290	
8/15/2016	1.9	120	20	7.5	170				0.73 (J)
8/16/2016						120	88	270	
9/28/2016	1.9	130	21	7.8	170	110			<1.3
9/29/2016							94	280	
11/16/2016	1.7	130	20	6.7	170	130	97	280	<1.3
1/16/2017	<1.3								
1/17/2017		150	19	6.7	180		100		<1.3
1/18/2017								280	
1/19/2017						160			
3/2/2017	1.4	160	15	5.6	180	130	100	240	<1.3
4/18/2017	1.3	180	14	5.1	160	120	91		<1.3
4/19/2017								250	
4/25/2017									
7/13/2017									1.4
10/10/2017	1.1	260	11	4.9	180	170	110	240	0.87 (J)
6/12/2018	0.82 (J)			3.8					4.1
6/13/2018		330	8.7		180	130	110	220	
10/9/2018	0.82 (J)			6.7					2.2
10/10/2018		410	8.7		190	140	110	220	
1/29/2019									
3/25/2019	<1.3			3.4 (J)					<1.3
3/26/2019		420	6.3 (J)		180	130	110	190	
9/10/2019	1.1	420	5.6	4.7	180	140	110	180	1.8
3/9/2020	4.2								3.4
3/10/2020		370	5	5.2	170	140	130	170	

# Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	4	
8/15/2016		
8/16/2016	2.8	
9/28/2016		
9/29/2016	<1.3	
11/16/2016	3	
1/16/2017		
1/17/2017		
1/18/2017	4.1	
1/19/2017		
3/2/2017	4.6	
4/18/2017		
4/19/2017		
4/25/2017	4.4	
7/13/2017	4.8	
10/10/2017	4.9	
6/12/2018	4.1	
6/13/2018		
10/9/2018		
10/10/2018	2.5	
1/29/2019		7.08
3/25/2019		1.8 (J)
3/26/2019	2.9 (J)	
9/10/2019	2.5	0.6 (J)
3/9/2020		
3/10/2020	7.8	2.4

# Prediction Limit

Constituent: TDS (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

	MGWA-10 (bg)	MGWC-8	MGWA-6 (bg)	MGWA-5 (bg)	MGWC-7	MGWC-1	MGWC-3	MGWC-2	MGWA-11 (bg)
5/5/2016	78	287	281	129	272				
5/6/2016						282	380	661	
6/20/2016	80			156					188
6/21/2016		297	303		356	516	392	692	
8/15/2016	58	230	310	160	330				180
8/16/2016						360	360	650	
9/28/2016	29	130	170	91	180	190			100
9/29/2016							380	640	
11/16/2016	140	290	340	250	330	410	420	680	270
1/16/2017	36								
1/17/2017		240	310	140	310		380		170
1/18/2017								630	
1/19/2017						400			
3/2/2017	78	270	330	170	340	360	410	660	210
4/18/2017	16	310	290	140	300	360	360		160
4/19/2017								600	
4/25/2017									
7/13/2017									150
10/10/2017	78	450	310	190	340	480	400	600	210
6/12/2018	62			180					150
6/13/2018		600	230		320	390	320	570	
10/9/2018	68			170					150
10/10/2018		410	300		270	260	300	470	
1/29/2019									
3/25/2019	54			150					210
3/26/2019		630	290		320	370	370	530	
9/10/2019	14	660	260	110	260	360	360	470	160
3/9/2020	56								190
3/10/2020		600	300	170	370	450	390	540	

# Prediction Limit

Constituent: TDS (mg/L) Analysis Run 5/26/2020 4:47 PM View: Appendix III  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

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	MGWC-12	MGWA-6A (bg)
5/5/2016		
5/6/2016		
6/20/2016		
6/21/2016	177	
8/15/2016		
8/16/2016	160	
9/28/2016		
9/29/2016	190	
11/16/2016	240	
1/16/2017		
1/17/2017		
1/18/2017	180	
1/19/2017		
3/2/2017	170	
4/18/2017		
4/19/2017		
4/25/2017	170	
7/13/2017	150	
10/10/2017	160	
6/12/2018	170	
6/13/2018		
10/9/2018		
10/10/2018	48	
1/29/2019		280
3/25/2019		250
3/26/2019	180	
9/10/2019	140	230
3/9/2020		
3/10/2020	170	260

FIGURE E.

# Appendix III Trend Tests - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:52 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MGWA-6 (bg)	-0.02855	-63	-44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-1	0.2412	48	44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-2	-0.3306	-46	-44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-3	0.201	45	44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-7	0.07557	60	44	Yes	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	MGWC-8	1.394	63	44	Yes	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-10 (bg)	-0.7439	-60	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-5 (bg)	-0.3936	-58	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-6 (bg)	-1.324	-70	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWC-2	-2.296	-84	-44	Yes	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWC-7	-0.8063	-64	-44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-6 (bg)	-4.202	-71	-44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-2	-34.14	-78	-44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-3	7.185	60	44	Yes	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-8	90.35	68	44	Yes	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-2	-48.03	-67	-44	Yes	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-8	114.5	58	44	Yes	14	0	n/a	n/a	0.02	NP

# Appendix III Trend Tests - All Results

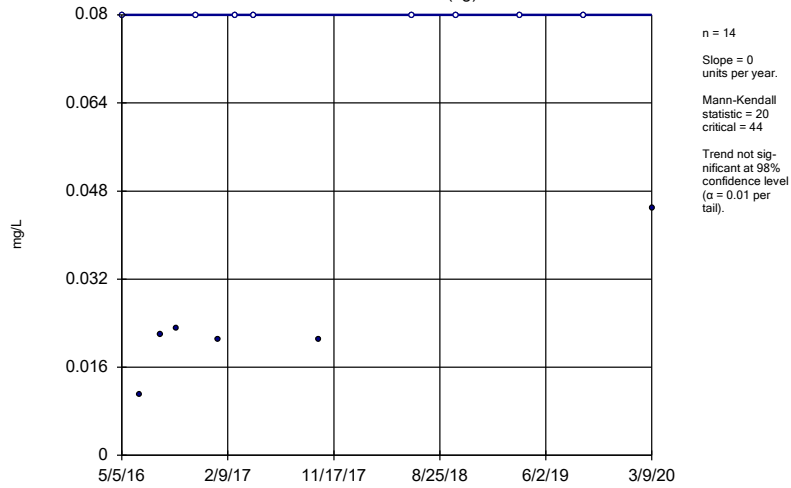
Plant McIntosh    Client: Southern Company    Data: McIntosh Ash Pond    Printed 5/26/2020, 4:52 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MGWA-10 (bg)	0	20	44	No	14	57.14	n/a	n/a	0.02	NP
Boron (mg/L)	MGWA-11 (bg)	0	32	44	No	14	71.43	n/a	n/a	0.02	NP
Boron (mg/L)	MGWA-5 (bg)	0	21	44	No	14	85.71	n/a	n/a	0.02	NP
<b>Boron (mg/L)</b>	<b>MGWA-6 (bg)</b>	<b>-0.02855</b>	<b>-63</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Boron (mg/L)	MGWA-6A (bg)	0	-1	-8	No	4	75	n/a	n/a	0.02	NP
<b>Boron (mg/L)</b>	<b>MGWC-1</b>	<b>0.2412</b>	<b>48</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-2</b>	<b>-0.3306</b>	<b>-46</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-3</b>	<b>0.201</b>	<b>45</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-7</b>	<b>0.07557</b>	<b>60</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Boron (mg/L)</b>	<b>MGWC-8</b>	<b>1.394</b>	<b>63</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Calcium (mg/L)</b>	<b>MGWA-10 (bg)</b>	<b>-0.7439</b>	<b>-60</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Calcium (mg/L)	MGWA-11 (bg)	-0.8057	-17	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-5 (bg)	0	-2	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-6 (bg)	0	20	44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWA-6A (bg)	-5.532	-2	-8	No	4	0	n/a	n/a	0.02	NP
Calcium (mg/L)	MGWC-1	5.325	31	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-10 (bg)	-0.0804	-19	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWA-11 (bg)	-0.05739	-8	-44	No	14	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MGWA-5 (bg)</b>	<b>-0.3936</b>	<b>-58</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Chloride (mg/L)</b>	<b>MGWA-6 (bg)</b>	<b>-1.324</b>	<b>-70</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MGWA-6A (bg)	-0.4452	-6	-8	No	4	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MGWC-1	0	-24	-44	No	14	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MGWC-2</b>	<b>-2.296</b>	<b>-84</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MGWC-3	0.3017	36	44	No	14	0	n/a	n/a	0.02	NP
<b>Chloride (mg/L)</b>	<b>MGWC-7</b>	<b>-0.8063</b>	<b>-64</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Chloride (mg/L)	MGWC-8	0.3935	33	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-10 (bg)	-0.4642	-41	-44	No	14	14.29	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-11 (bg)	0.3617	30	44	No	14	42.86	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWA-5 (bg)	-0.8789	-40	-44	No	14	0	n/a	n/a	0.02	NP
<b>Sulfate (mg/L)</b>	<b>MGWA-6 (bg)</b>	<b>-4.202</b>	<b>-71</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Sulfate (mg/L)	MGWA-6A (bg)	-3.4	-2	-8	No	4	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MGWC-1	5.48	25	44	No	14	0	n/a	n/a	0.02	NP
<b>Sulfate (mg/L)</b>	<b>MGWC-2</b>	<b>-34.14</b>	<b>-78</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
<b>Sulfate (mg/L)</b>	<b>MGWC-3</b>	<b>7.185</b>	<b>60</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
Sulfate (mg/L)	MGWC-7	3.621	36	44	No	14	0	n/a	n/a	0.02	NP
<b>Sulfate (mg/L)</b>	<b>MGWC-8</b>	<b>90.35</b>	<b>68</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
TDS (mg/L)	MGWA-10 (bg)	-7.28	-28	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-11 (bg)	0	-6	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-5 (bg)	4.65	11	44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-6 (bg)	-3.179	-12	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWA-6A (bg)	-30.59	-2	-8	No	4	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-1	0	5	44	No	14	0	n/a	n/a	0.02	NP
<b>TDS (mg/L)</b>	<b>MGWC-2</b>	<b>-48.03</b>	<b>-67</b>	<b>-44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>
TDS (mg/L)	MGWC-3	-6.612	-19	-44	No	14	0	n/a	n/a	0.02	NP
TDS (mg/L)	MGWC-7	0	-2	-44	No	14	0	n/a	n/a	0.02	NP
<b>TDS (mg/L)</b>	<b>MGWC-8</b>	<b>114.5</b>	<b>58</b>	<b>44</b>	<b>Yes</b>	<b>14</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.02</b>	<b>NP</b>



### Sen's Slope Estimator

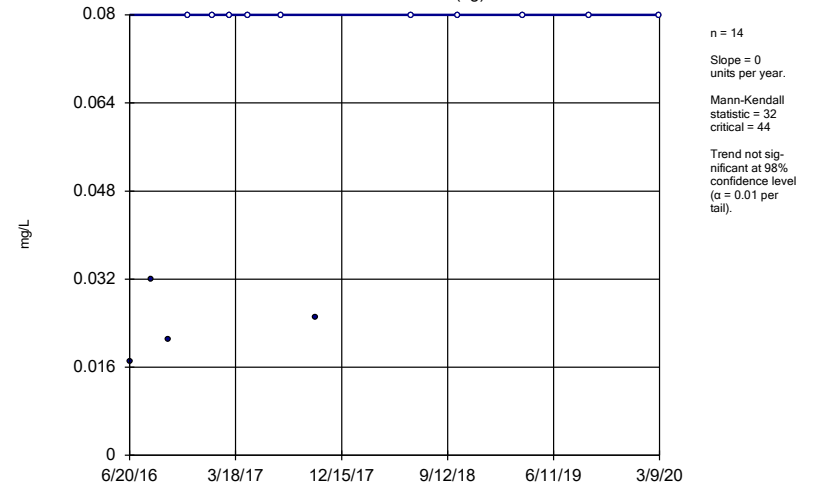
MGWA-10 (bg)



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

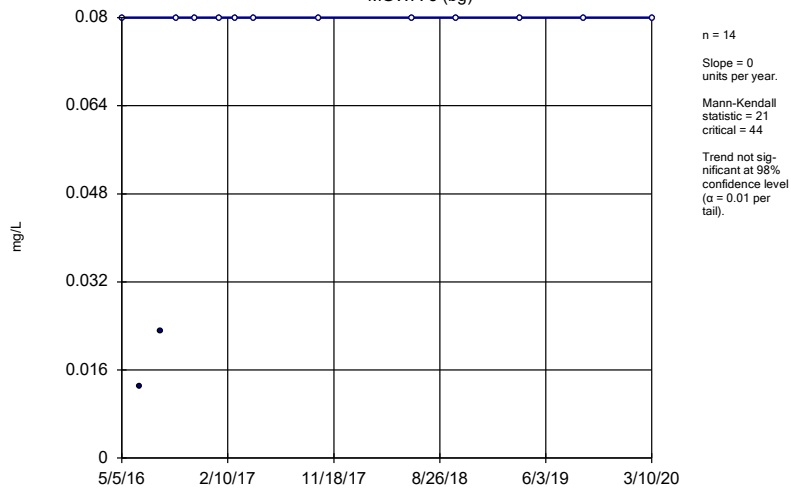
MGWA-11 (bg)



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

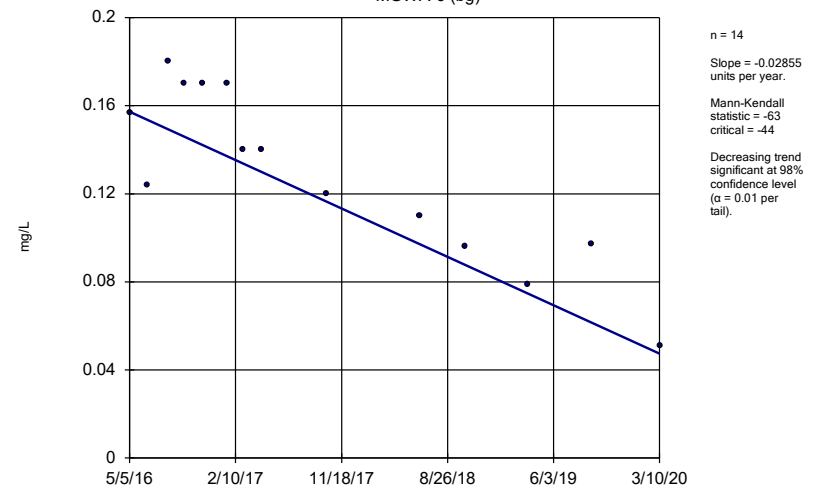
MGWA-5 (bg)



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

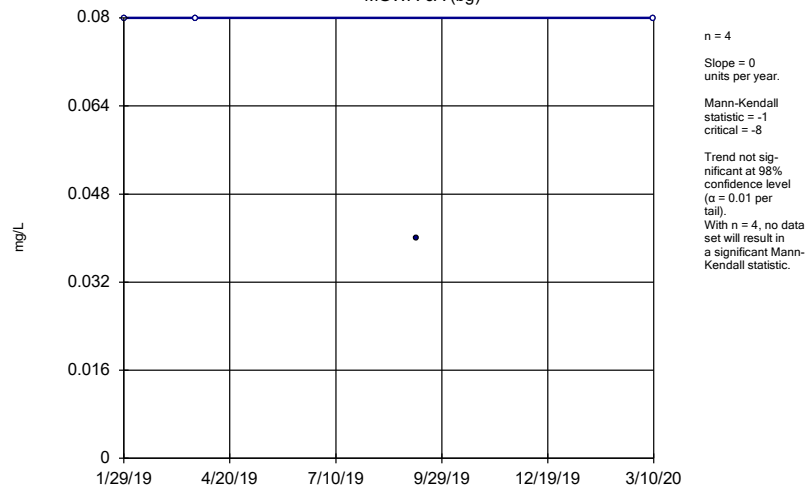
MGWA-6 (bg)



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

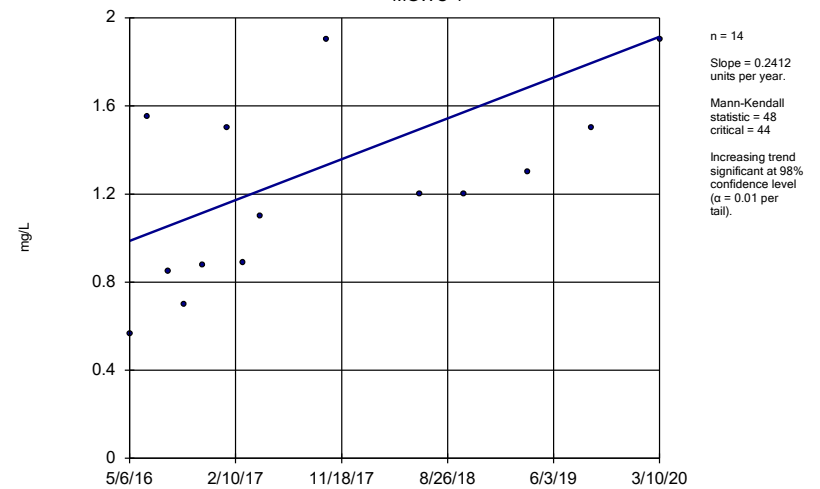
MGWA-6A (bg)



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

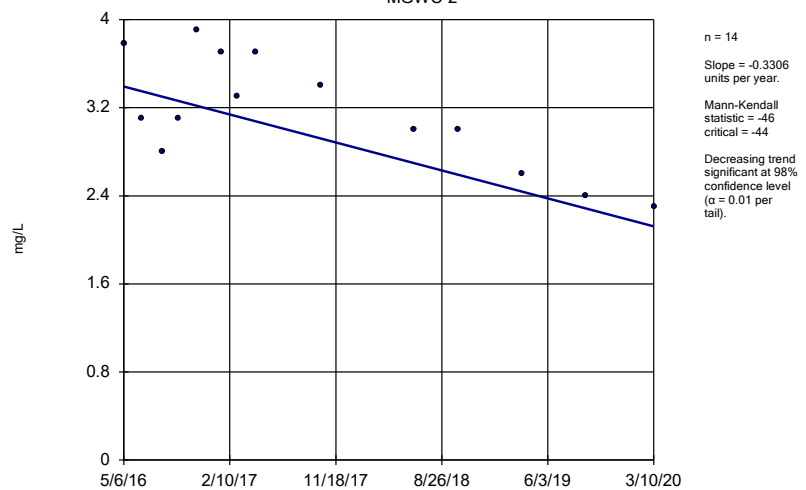
MGWC-1



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

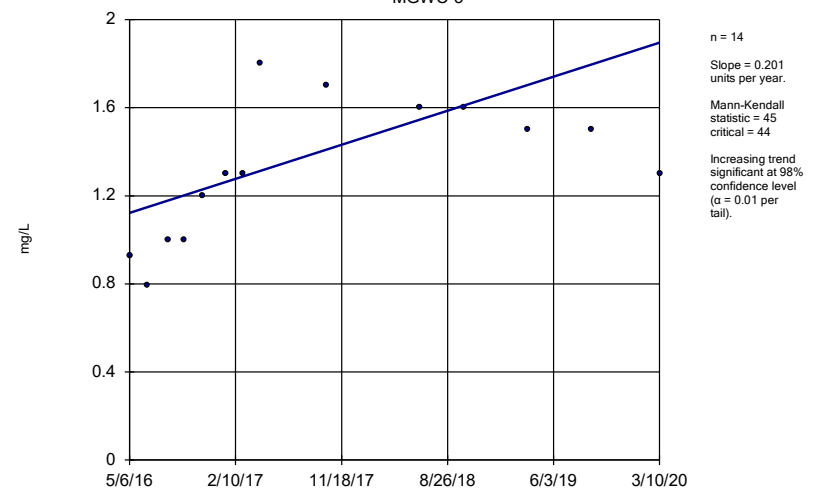
MGWC-2



Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

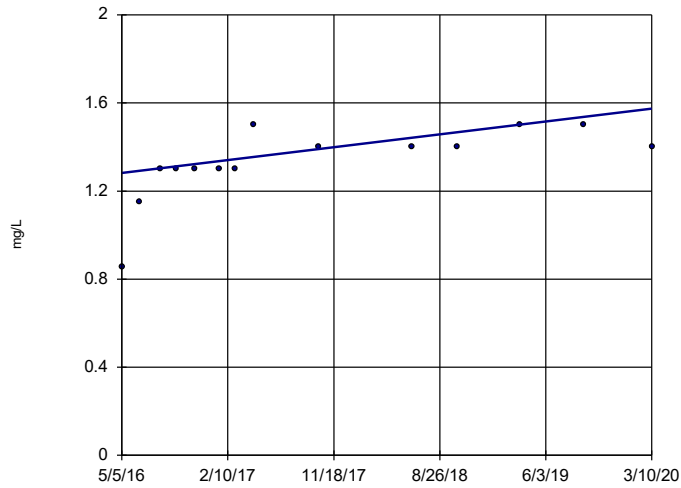
### Sen's Slope Estimator

MGWC-3



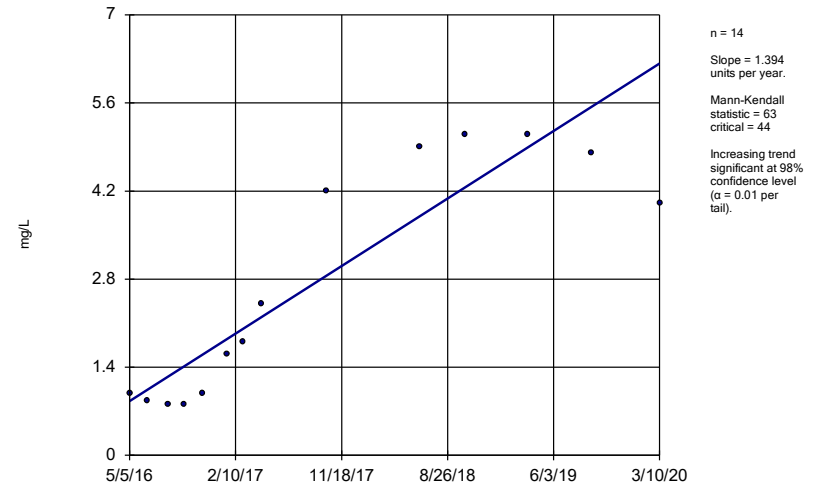
Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Sen's Slope Estimator  
MGWC-7



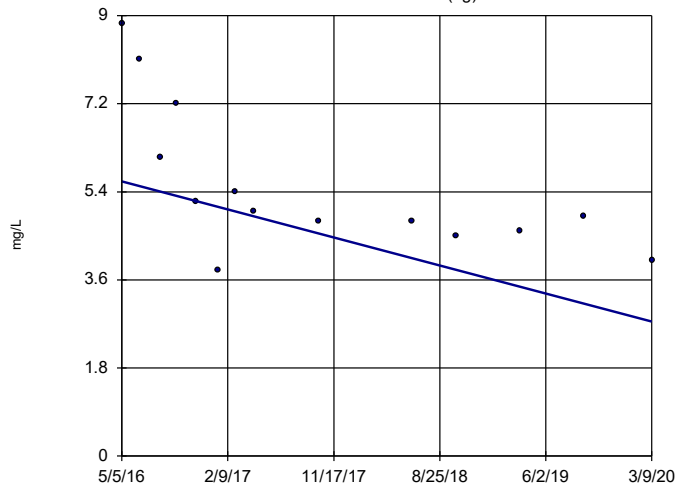
Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Sen's Slope Estimator  
MGWC-8



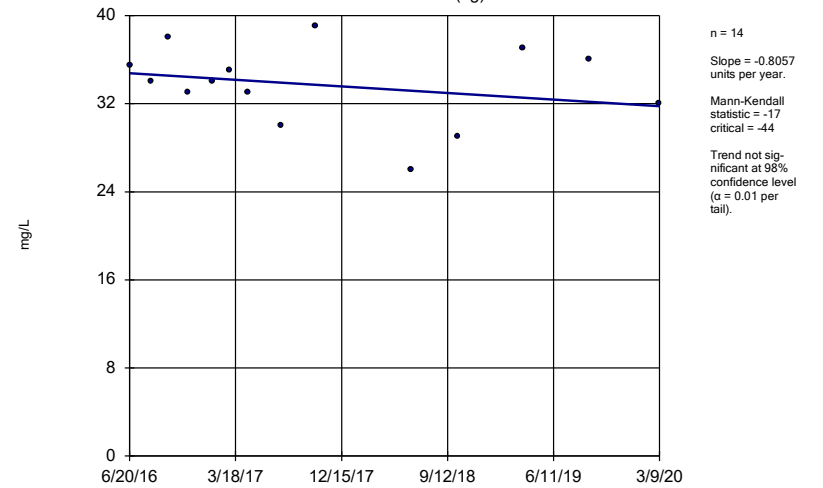
Constituent: Boron Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Sen's Slope Estimator  
MGWA-10 (bg)



Constituent: Calcium Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

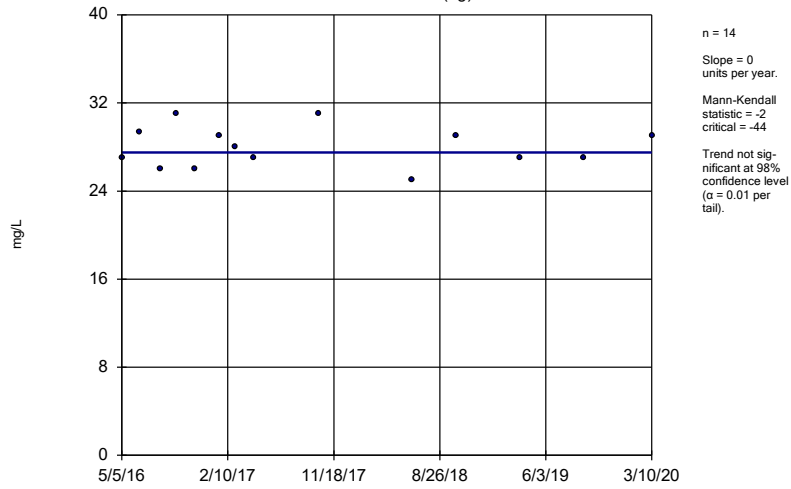
Sen's Slope Estimator  
MGWA-11 (bg)



Constituent: Calcium Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

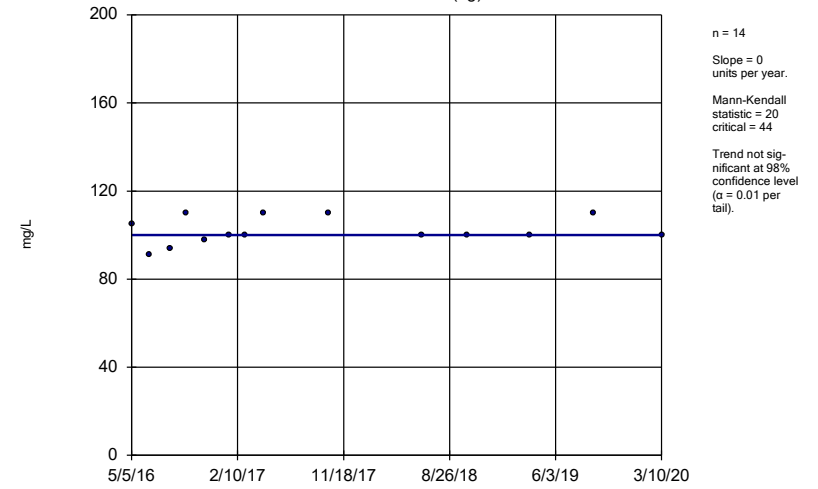
MGWA-5 (bg)



Constituent: Calcium Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

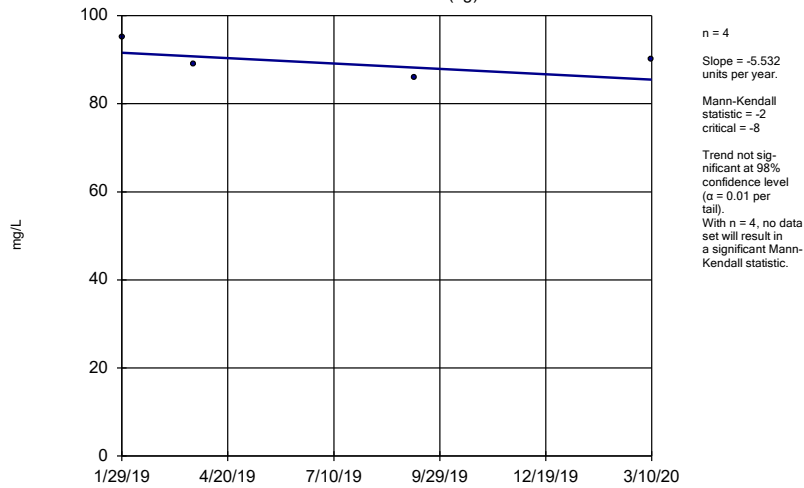
MGWA-6 (bg)



Constituent: Calcium Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

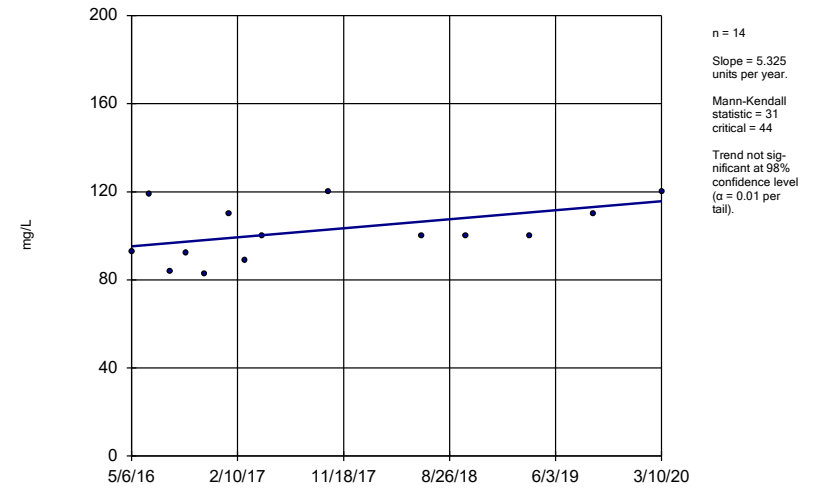
MGWA-6A (bg)



Constituent: Calcium Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

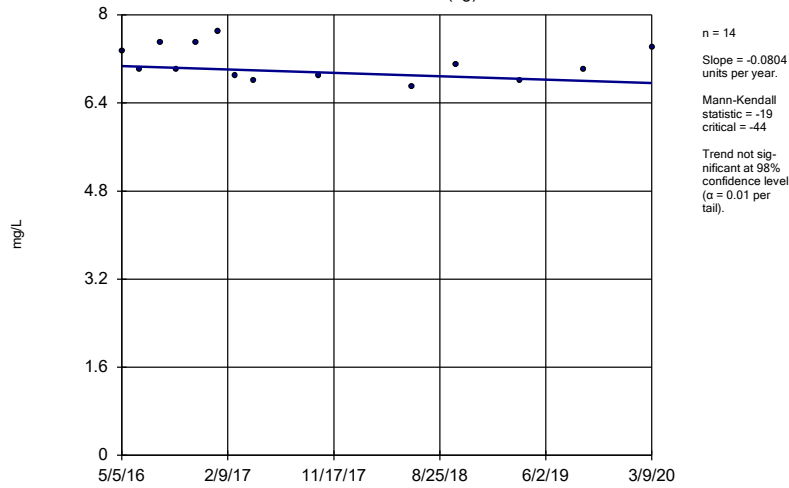
### Sen's Slope Estimator

MGWC-1



### Sen's Slope Estimator

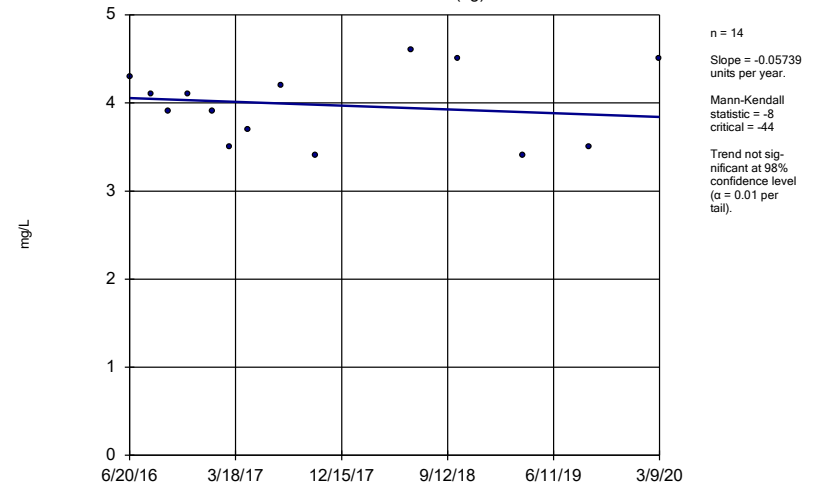
MGWA-10 (bg)



Constituent: Chloride Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

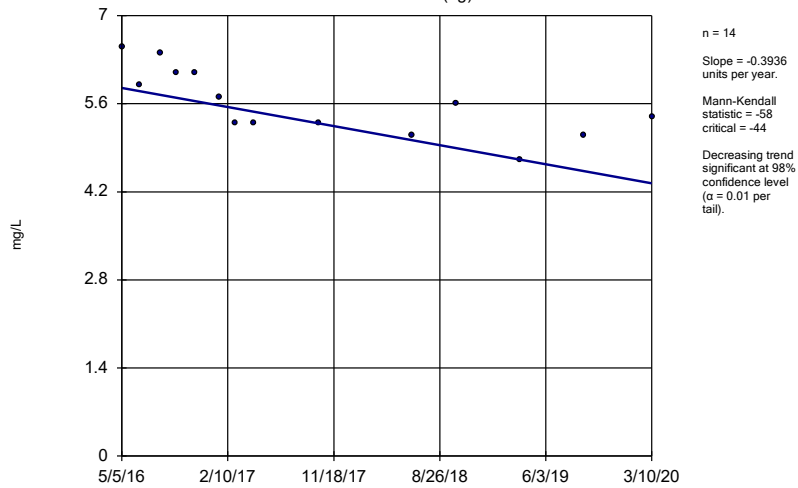
MGWA-11 (bg)



Constituent: Chloride Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

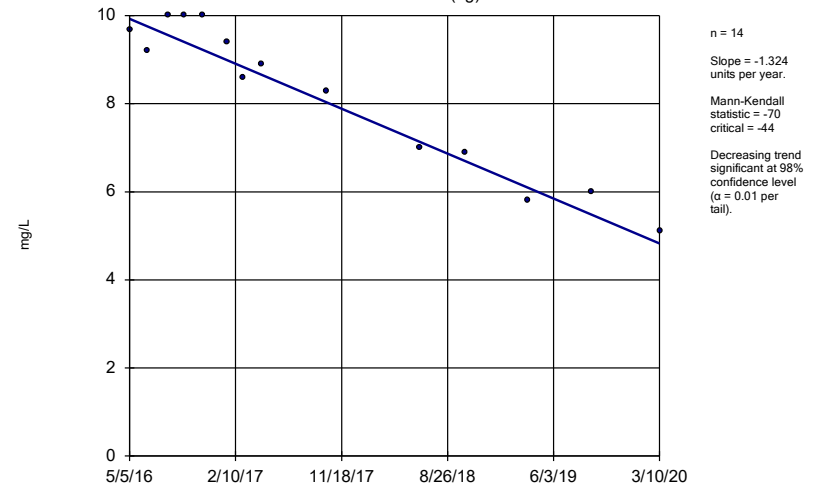
MGWA-5 (bg)



Constituent: Chloride Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

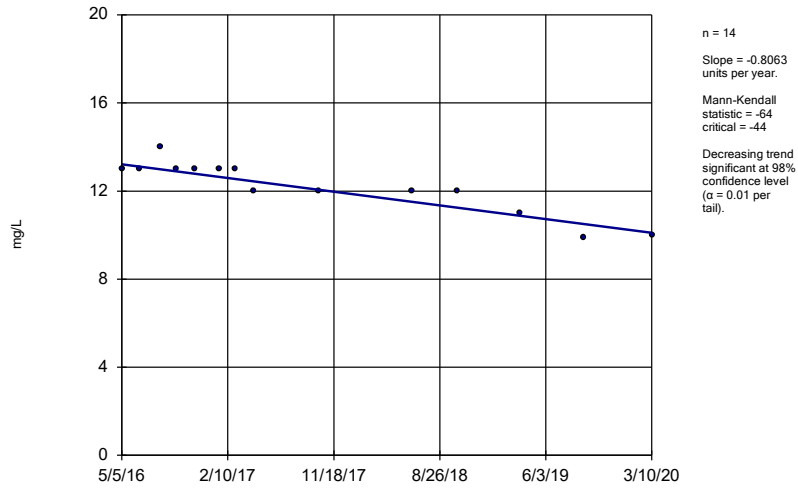
MGWA-6 (bg)



Constituent: Chloride Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

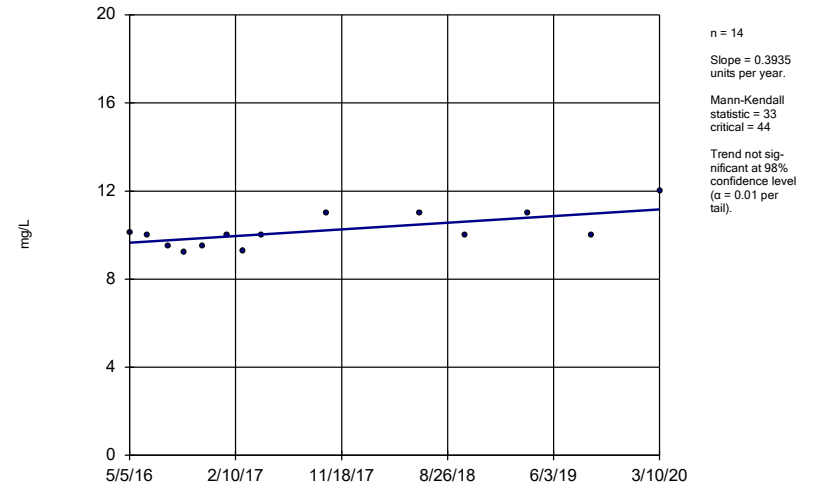


Sen's Slope Estimator  
MGWC-7



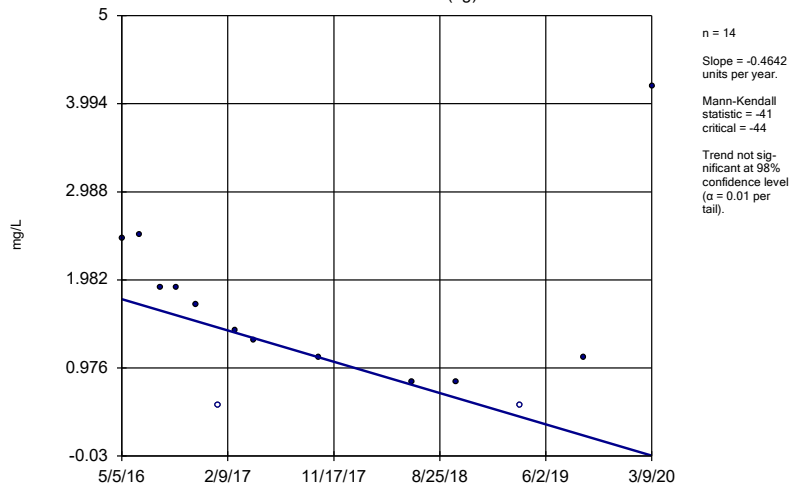
Constituent: Chloride Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Sen's Slope Estimator  
MGWC-8



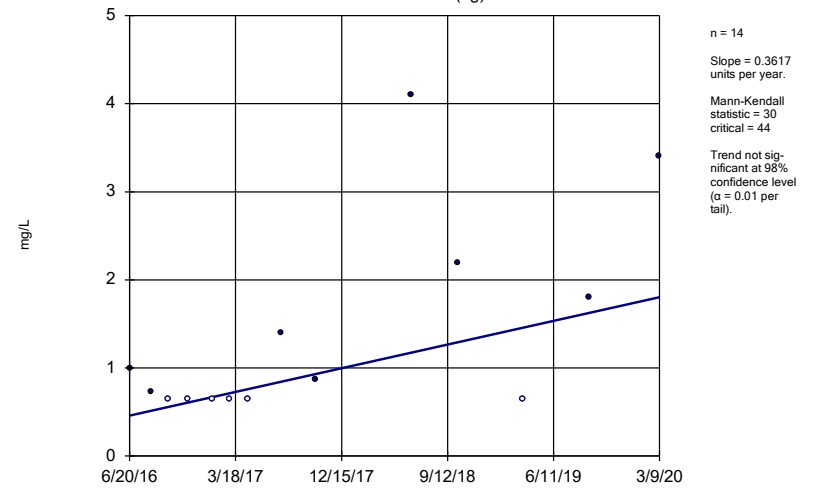
Constituent: Chloride Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Sen's Slope Estimator  
MGWA-10 (bg)



Constituent: Sulfate Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Sen's Slope Estimator  
MGWA-11 (bg)

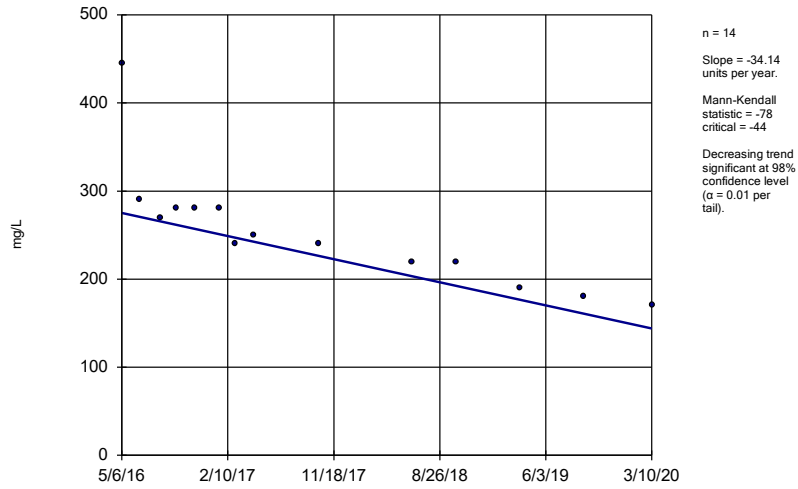


Constituent: Sulfate Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond



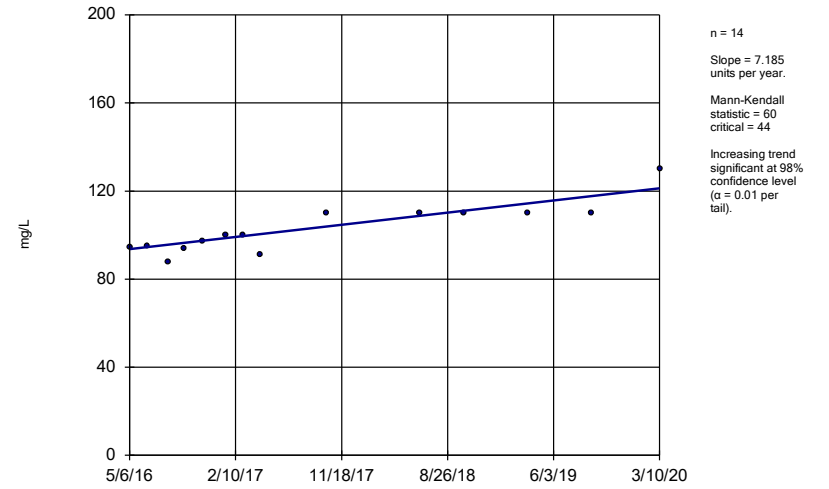


### Sen's Slope Estimator MGWC-2



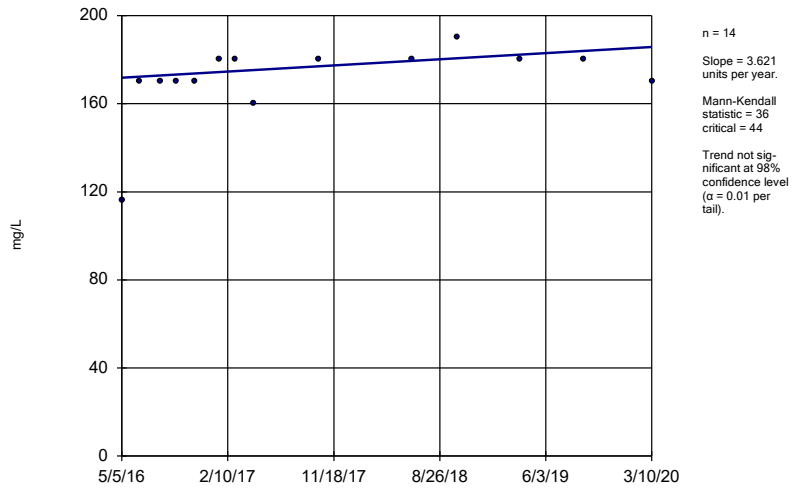
Constituent: Sulfate Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator MGWC-3



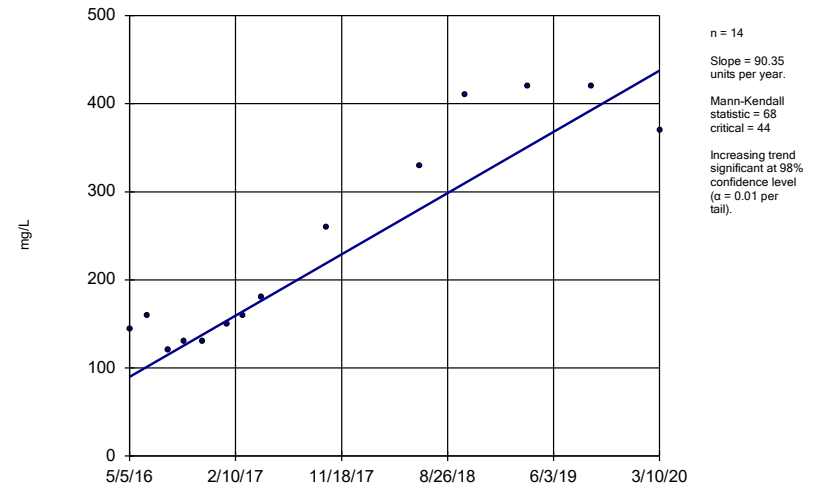
Constituent: Sulfate Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator MGWC-7



Constituent: Sulfate Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

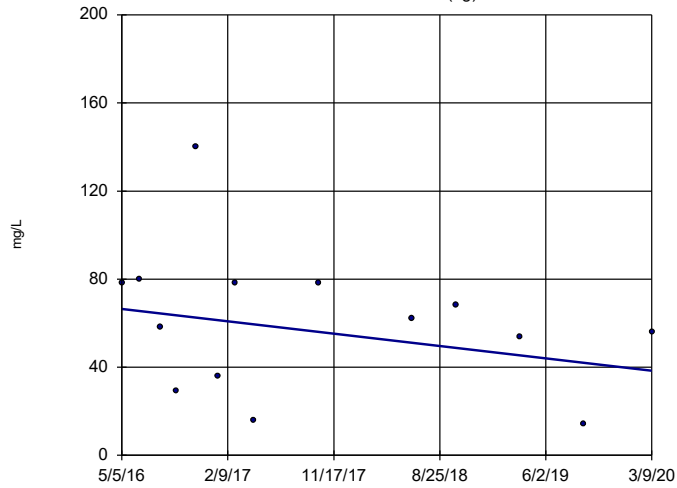
### Sen's Slope Estimator MGWC-8



Constituent: Sulfate Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

MGWA-10 (bg)

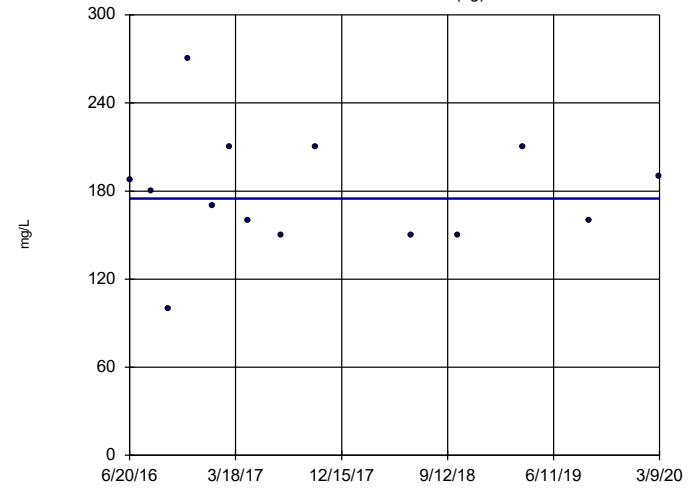


n = 14  
 Slope = -7.28  
 units per year.  
 Mann-Kendall  
 statistic = -28  
 critical = -44  
 Trend not sig-  
 nificant at 98%  
 confidence level  
 (α = 0.01 per  
 tail).

Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

MGWA-11 (bg)

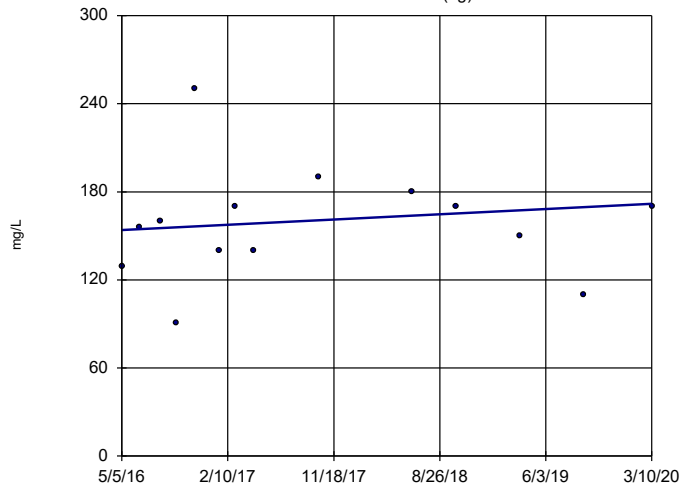


n = 14  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = -6  
 critical = -44  
 Trend not sig-  
 nificant at 98%  
 confidence level  
 (α = 0.01 per  
 tail).

Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

MGWA-5 (bg)

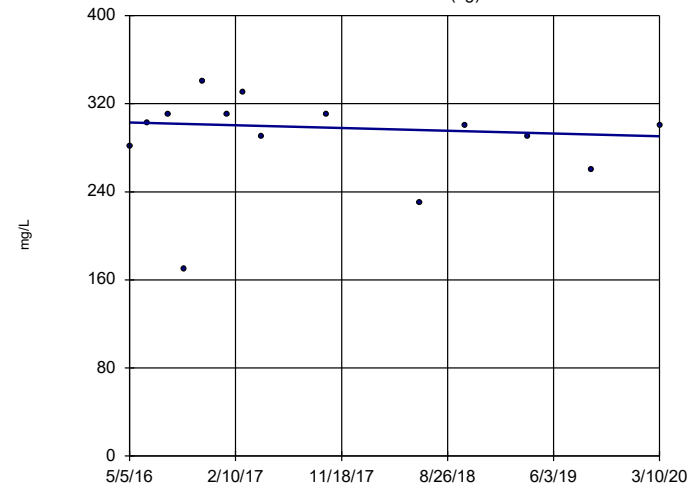


n = 14  
 Slope = 4.65  
 units per year.  
 Mann-Kendall  
 statistic = 11  
 critical = 44  
 Trend not sig-  
 nificant at 98%  
 confidence level  
 (α = 0.01 per  
 tail).

Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

MGWA-6 (bg)

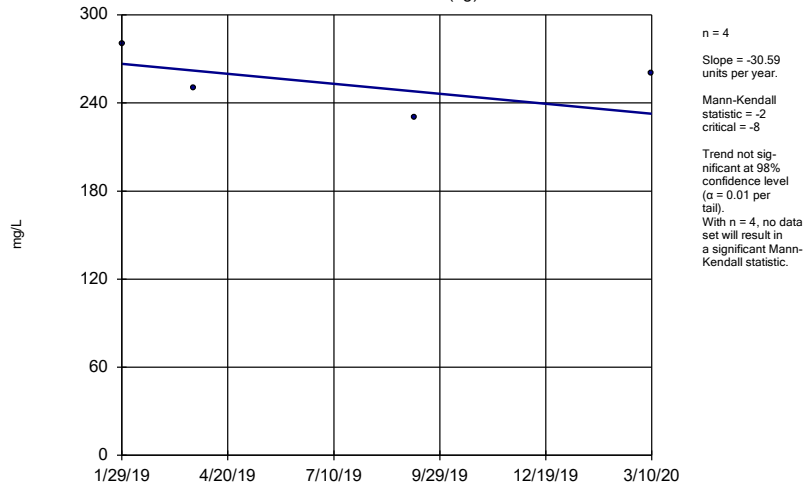


n = 14  
 Slope = -3.179  
 units per year.  
 Mann-Kendall  
 statistic = -12  
 critical = -44  
 Trend not sig-  
 nificant at 98%  
 confidence level  
 (α = 0.01 per  
 tail).

Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

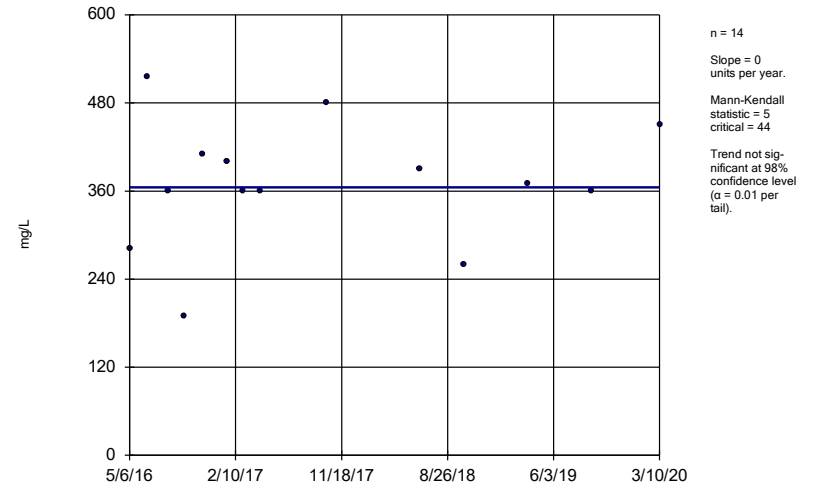
MGWA-6A (bg)



Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

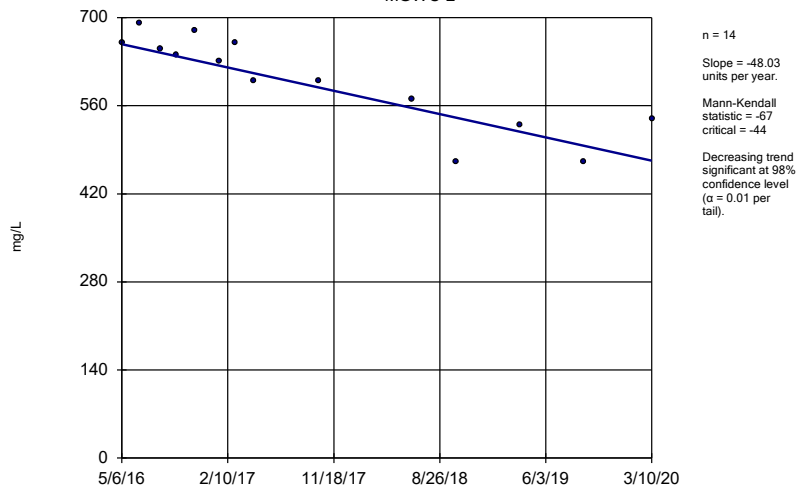
MGWC-1



Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

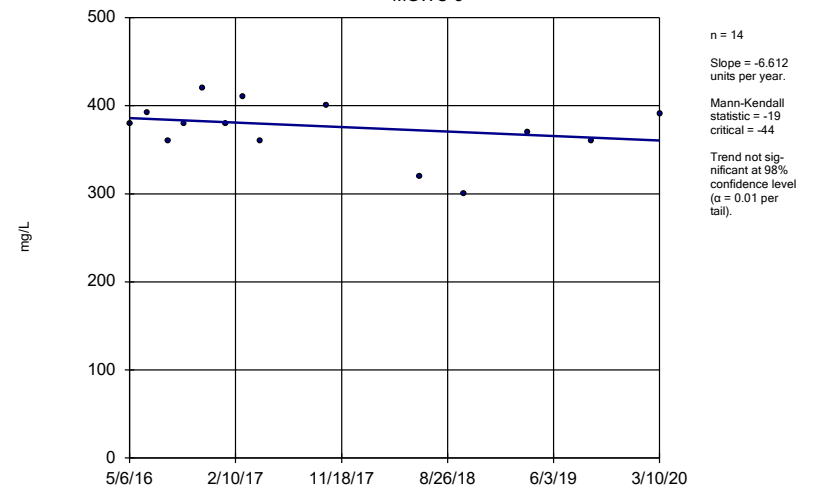
MGWC-2



Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

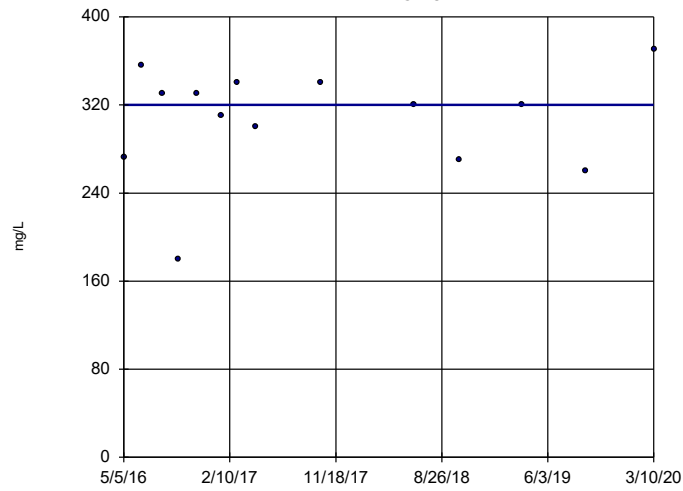
MGWC-3



Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

MGWC-7

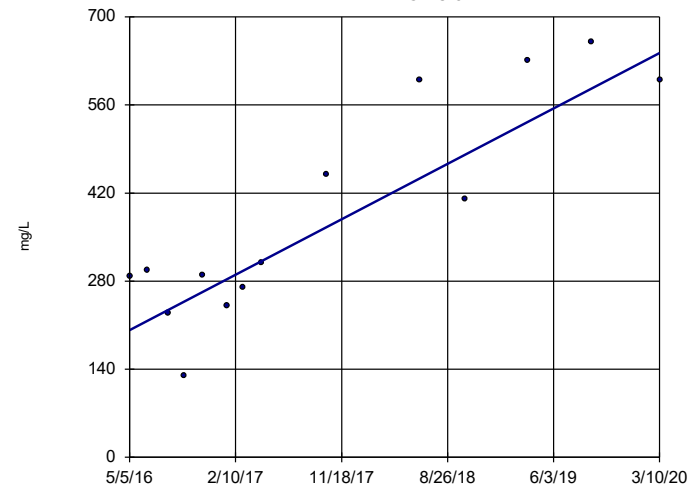


n = 14  
 Slope = 0  
 units per year.  
 Mann-Kendall  
 statistic = -2  
 critical = -44  
 Trend not sig-  
 nificant at 98%  
 confidence level  
 ( $\alpha = 0.01$  per  
 tail).

Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Sen's Slope Estimator

MGWC-8



n = 14  
 Slope = 114.5  
 units per year.  
 Mann-Kendall  
 statistic = 58  
 critical = 44  
 Increasing trend  
 significant at 98%  
 confidence level  
 ( $\alpha = 0.01$  per  
 tail).

Constituent: TDS Analysis Run 5/26/2020 4:51 PM View: Appendix III - Trend Tests  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

FIGURE F.

# Tolerance Limit Summary Table

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/26/2020, 4:54 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.0020	n/a	n/a	n/a	n/a	51	n/a	n/a	92.16	n/a	n/a	0.0731	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.035	n/a	n/a	n/a	n/a	69	n/a	n/a	36.23	n/a	n/a	0.02904	NP Inter(normality)
Barium (mg/L)	n/a	0.13	n/a	n/a	n/a	n/a	69	n/a	n/a	0	n/a	n/a	0.02904	NP Inter(normality)
Beryllium (mg/L)	n/a	0.0025	n/a	n/a	n/a	n/a	59	n/a	n/a	93.22	n/a	n/a	0.04849	NP Inter(NDs)
Cadmium (mg/L)	n/a	0.0025	n/a	n/a	n/a	n/a	69	n/a	n/a	98.55	n/a	n/a	0.02904	NP Inter(NDs)
Chromium (mg/L)	n/a	0.0063	n/a	n/a	n/a	n/a	59	n/a	n/a	67.8	n/a	n/a	0.04849	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.0025	n/a	n/a	n/a	n/a	69	n/a	n/a	75.36	n/a	n/a	0.02904	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	1.1	n/a	n/a	n/a	n/a	69	0.5336	0.287	0	None	No	0.05	Inter
Fluoride (mg/L)	n/a	0.19	n/a	n/a	n/a	n/a	64	n/a	n/a	34.38	n/a	n/a	0.03752	NP Inter(normality)
Lead (mg/L)	n/a	0.0010	n/a	n/a	n/a	n/a	51	n/a	n/a	94.12	n/a	n/a	0.0731	NP Inter(NDs)
Lithium (mg/L)	n/a	0.030	n/a	n/a	n/a	n/a	69	n/a	n/a	27.54	n/a	n/a	0.02904	NP Inter(normality)
Mercury (mg/L)	n/a	0.00020	n/a	n/a	n/a	n/a	59	n/a	n/a	94.92	n/a	n/a	0.04849	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.015	n/a	n/a	n/a	n/a	59	n/a	n/a	69.49	n/a	n/a	0.04849	NP Inter(NDs)
Selenium (mg/L)	n/a	0.0050	n/a	n/a	n/a	n/a	54	n/a	n/a	88.89	n/a	n/a	0.06267	NP Inter(NDs)
Thallium (mg/L)	n/a	0.0010	n/a	n/a	n/a	n/a	59	n/a	n/a	88.14	n/a	n/a	0.04849	NP Inter(NDs)

FIGURE G.

<b>PLANT MCINTOSH AP 1 GWPS - FEDERAL</b>				
<b>Constituent Name</b>	<b>MCL</b>	<b>CCR-Rule Specified</b>	<b>Background Limit</b>	<b>GWPS</b>
Antimony, Total (mg/L)	0.006		0.002	0.006
Arsenic, Total (mg/L)	0.01		0.035	0.035
Barium, Total (mg/L)	2		0.13	2
Beryllium, Total (mg/L)	0.004		0.0025	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.0063	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.0025	0.006
Combined Radium, Total (pCi/L)	5		1.1	5
Fluoride, Total (mg/L)	4		0.19	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.015	0.1
Selenium, Total (mg/L)	0.05		0.005	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

*\*Grey cell indicates background is higher than MCL or CCR-Rule*

*\*MCL = Maximum Contaminant Level*



FIGURE H.

<b>PLANT MCINTOSH AP 1 GWPS - STATE</b>				
<b>Constituent Name</b>	<b>MCL</b>	<b>CCR-Rule Specified</b>	<b>Background Limit</b>	<b>GWPS</b>
Antimony, Total (mg/L)	0.006		0.002	0.006
Arsenic, Total (mg/L)	0.01		0.035	0.035
Barium, Total (mg/L)	2		0.13	2
Beryllium, Total (mg/L)	0.004		0.0025	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.0063	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.0025	0.0025
Combined Radium, Total (pCi/L)	5		1.1	5
Fluoride, Total (mg/L)	4		0.19	4
Lead, Total (mg/L)	n/a	0.015	0.001	0.001
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.015	0.015
Selenium, Total (mg/L)	0.05		0.005	0.005
Thallium, Total (mg/L)	0.002		0.001	0.002

*\*Grey cell indicates background is higher than MCL or CCR-Rule*

*\*MCL = Maximum Contaminant Level*

FIGURE I.

# Federal Confidence Intervals - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:58 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt (mg/L)	MGWC-7	0.0107	0.008314	0.006	Yes 16	0.009375	0.002034	0	None	x^2	0.01	Param.
Lithium (mg/L)	MGWC-7	0.13	0.11	0.04	Yes 16	0.1208	0.02225	0	None	No	0.01	NP (normality)

# Federal Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:58 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MGWC-12	0.002	0.0004	0.006	No	12	0.001867	0.0004619	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-3	0.002	0.0003	0.006	No	12	0.001858	0.0004907	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-7	0.002	0.00197	0.006	No	12	0.001998	0.00000866	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-1	0.003041	0.002155	0.035	No	16	0.002621	0.0007343	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.0019	0.00053	0.035	No	16	0.001732	0.001673	18.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-2	0.005	0.00065	0.035	No	16	0.003881	0.002004	75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.0018	0.0013	0.035	No	16	0.001721	0.000926	6.25	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-7	0.005	0.00066	0.035	No	16	0.002664	0.00214	43.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-8	0.005	0.00059	0.035	No	16	0.004164	0.001798	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	MGWC-1	0.12	0.095	2	No	16	0.1071	0.01877	0	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-12	0.06203	0.04733	2	No	16	0.05468	0.01129	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05588	0.0498	2	No	16	0.05284	0.004671	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1519	0.136	2	No	16	0.1439	0.0122	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.015	0.0098	2	No	16	0.01324	0.007627	6.25	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-8	0.03769	0.03386	2	No	16	0.03578	0.00294	0	None	No	0.01	Param.
Beryllium (mg/L)	MGWC-1	0.013	0.00018	0.004	No	14	0.01208	0.003426	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.013	0.00031	0.004	No	14	0.01209	0.003392	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.0019	0.00049	0.004	No	14	0.002679	0.004398	14.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	MGWC-1	0.013	0.0005	0.005	No	16	0.01061	0.005134	81.25	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.003546	0.001353	0.005	No	16	0.002607	0.001997	0	None	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-8	0.013	0.00044	0.005	No	16	0.005282	0.006178	37.5	None	No	0.01	NP (normality)
Chromium (mg/L)	MGWC-1	0.0036	0.002	0.1	No	14	0.002114	0.0004276	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-12	0.0032	0.002	0.1	No	14	0.002086	0.0003207	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-2	0.0033	0.002	0.1	No	14	0.002093	0.0003474	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-3	0.003	0.002	0.1	No	14	0.002071	0.0002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-7	0.0034	0.0015	0.1	No	14	0.002064	0.0004069	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-8	0.0031	0.002	0.1	No	14	0.002079	0.000294	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-1	0.0025	0.0004	0.006	No	16	0.001765	0.0009996	62.5	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-12	0.0025	0.00016	0.006	No	16	0.002354	0.000585	93.75	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-2	0.00349	0.002952	0.006	No	16	0.003221	0.0004134	0	None	No	0.01	Param.
Cobalt (mg/L)	MGWC-3	0.00068	0.0005	0.006	No	16	0.0009387	0.0007782	18.75	None	No	0.01	NP (normality)
<b>Cobalt (mg/L)</b>	<b>MGWC-7</b>	<b>0.0107</b>	<b>0.008314</b>	<b>0.006</b>	<b>Yes</b>	<b>16</b>	<b>0.009375</b>	<b>0.002034</b>	<b>0</b>	<b>None</b>	<b>x*2</b>	<b>0.01</b>	<b>Param.</b>
Cobalt (mg/L)	MGWC-8	0.019	0.0038	0.006	No	16	0.01121	0.007422	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.64	1.08	5	No	16	1.327	0.3151	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.6982	0.3727	5	No	16	0.5354	0.2501	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.726	0.4138	5	No	16	0.5699	0.24	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.641	1.369	5	No	16	1.505	0.2091	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.309	0.8683	5	No	16	1.089	0.339	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	2.009	1.423	5	No	16	1.716	0.45	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-1	0.2569	0.1556	4	No	15	0.2063	0.07479	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.258	0.2006	4	No	15	0.2293	0.04234	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.2	0.076	4	No	15	0.1464	0.06142	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-3	0.2	0.073	4	No	15	0.1416	0.06414	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-7	0.3654	0.2204	4	No	15	0.2929	0.107	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.2	0.088	4	No	15	0.1245	0.04492	20	None	No	0.01	NP (normality)
Lead (mg/L)	MGWC-12	0.001	0.0001	0.015	No	12	0.000925	0.0002598	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MGWC-7	0.001	0.0003	0.015	No	12	0.0009417	0.0002021	91.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01278	0.01041	0.04	No	16	0.01163	0.001897	6.25	None	sqrt(x)	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02189	0.01478	0.04	No	16	0.01834	0.005465	0	None	No	0.01	Param.
Lithium (mg/L)	MGWC-2	0.0074	0.0047	0.04	No	16	0.006061	0.002012	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	MGWC-3	0.01368	0.01097	0.04	No	16	0.01233	0.002076	0	None	No	0.01	Param.
<b>Lithium (mg/L)</b>	<b>MGWC-7</b>	<b>0.13</b>	<b>0.11</b>	<b>0.04</b>	<b>Yes</b>	<b>16</b>	<b>0.1208</b>	<b>0.02225</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Lithium (mg/L)	MGWC-8	0.04014	0.02762	0.04	No	16	0.03388	0.009623	0	None	No	0.01	Param.
Mercury (mg/L)	MGWC-12	0.0002	0.000086	0.002	No	14	0.0001829	0.00004364	85.71	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0002	0.0001	0.002	No	14	0.0001841	0.00004054	85.71	None	No	0.01	NP (NDs)

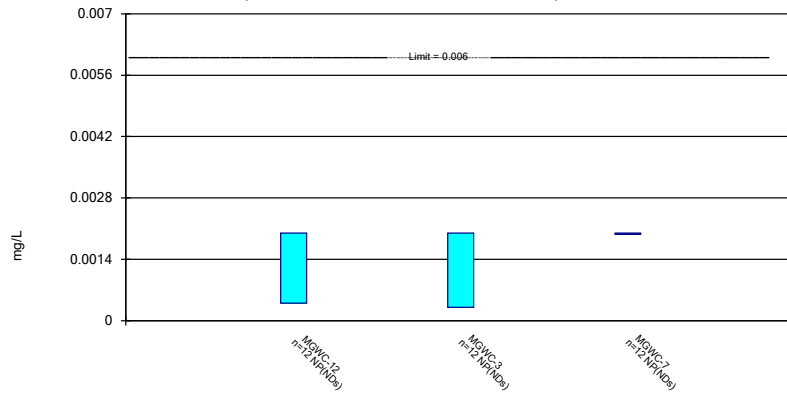
# Federal Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:58 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Mercury (mg/L)	MGWC-3	0.0002	0.00007	0.002	No 14	0.0001907	0.00003474	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0002	0.00008	0.002	No 14	0.0001914	0.00003207	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.00012	0.002	No 14	0.0002097	0.0001581	42.86	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-1	0.015	0.0012	0.1	No 14	0.005391	0.006316	28.57	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.015	0.002	0.1	No 14	0.01211	0.005737	78.57	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.015	0.00351	0.1	No 14	0.01418	0.003071	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.015	0.0037	0.1	No 14	0.01419	0.00302	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-1	0.001	0.00014	0.002	No 14	0.0007604	0.0003966	71.43	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-12	0.001	0.00015	0.002	No 14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-2	0.001	0.00021	0.002	No 14	0.0009436	0.0002111	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-3	0.001	0.00037	0.002	No 14	0.000895	0.0002701	85.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-8	0.0004022	0.0001433	0.002	No 14	0.00032	0.0003001	14.29	None	In(x)	0.01	Param.

### Non-Parametric Confidence Interval

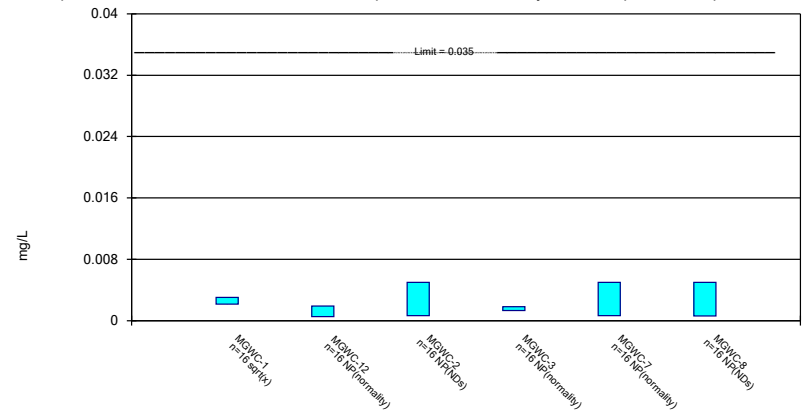
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

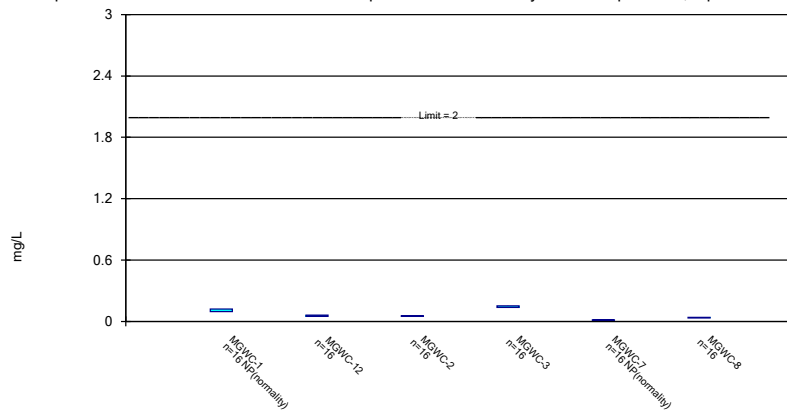
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

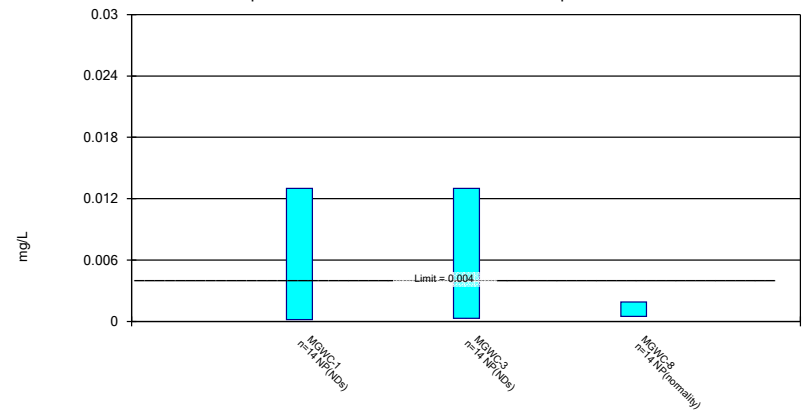
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Non-Parametric Confidence Interval

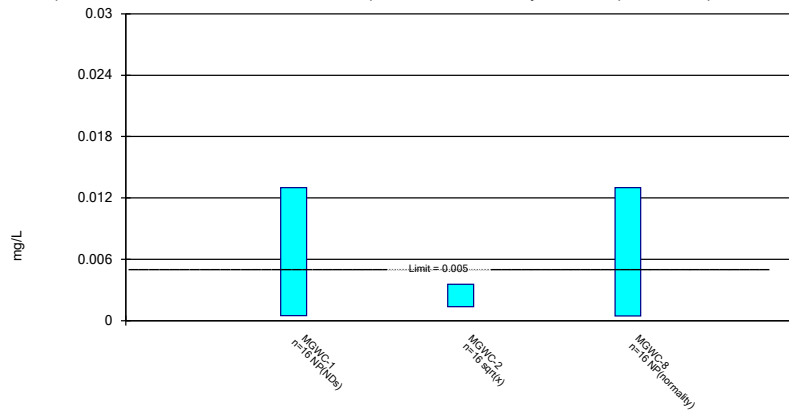
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

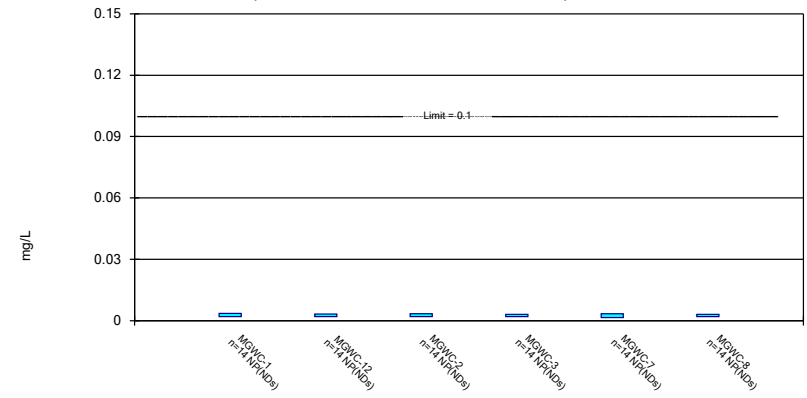
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Non-Parametric Confidence Interval

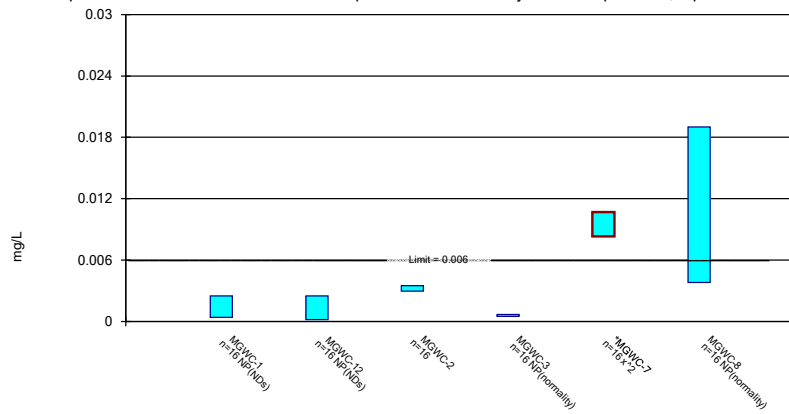
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

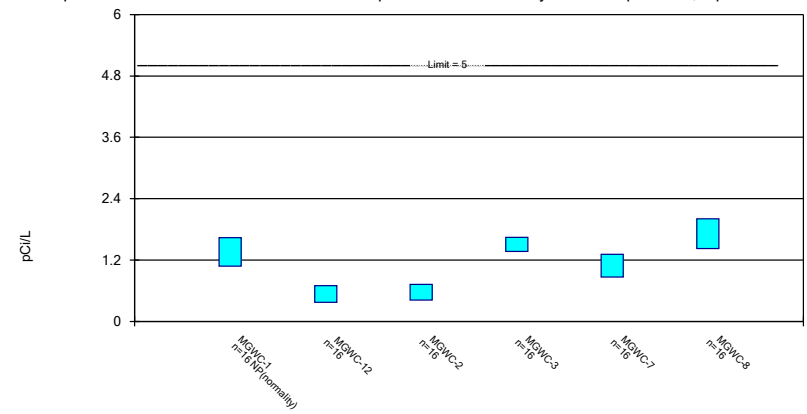
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

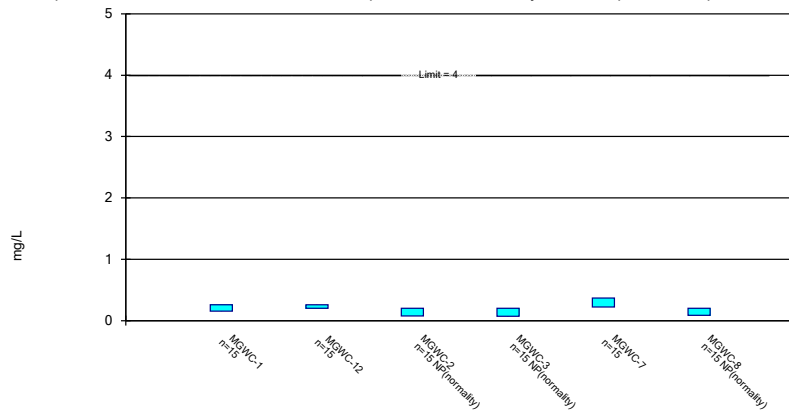


Constituent: Combined Radium 226 + 228 Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond



### Parametric and Non-Parametric (NP) Confidence Interval

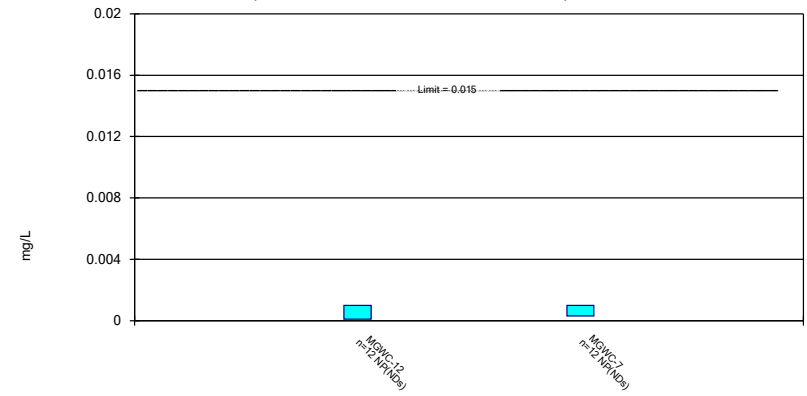
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Non-Parametric Confidence Interval

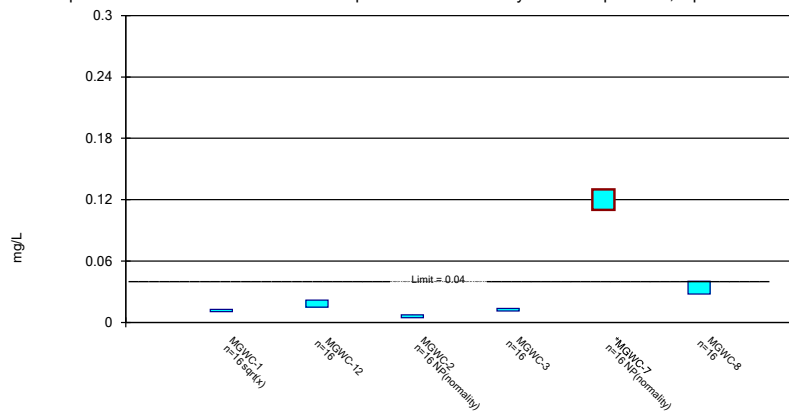
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

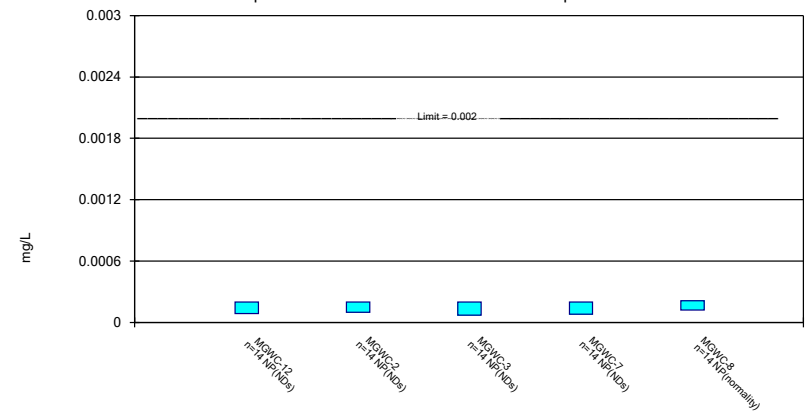
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Non-Parametric Confidence Interval

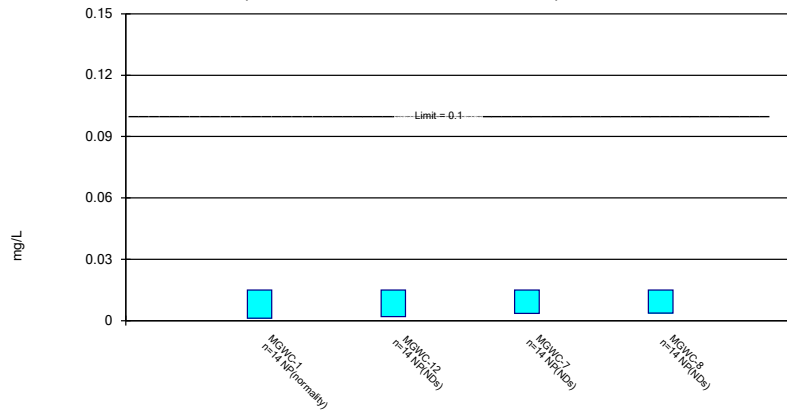
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Non-Parametric Confidence Interval

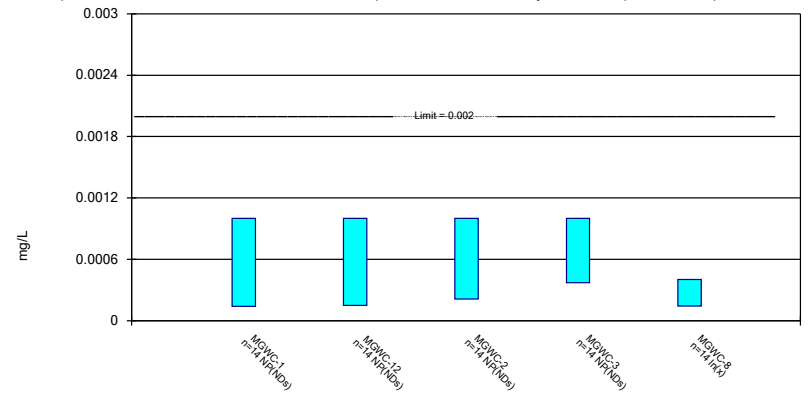
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Molybdenum Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 5/28/2020 9:57 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

FIGURE J.

# State Confidence Intervals - Significant Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:41 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt (mg/L)	MGWC-2	0.00349	0.002952	0.0025	Yes 16	0.003221	0.0004134	0	None	No	0.01	Param.
Cobalt (mg/L)	MGWC-7	0.0107	0.008314	0.0025	Yes 16	0.009375	0.002034	0	None	x^2	0.01	Param.
Cobalt (mg/L)	MGWC-8	0.019	0.0038	0.0025	Yes 16	0.01121	0.007422	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MGWC-7	0.13	0.11	0.03	Yes 16	0.1208	0.02225	0	None	No	0.01	NP (normality)

# State Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:41 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MGWC-12	0.002	0.0004	0.006	No	12	0.001867	0.0004619	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-3	0.002	0.0003	0.006	No	12	0.001858	0.0004907	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MGWC-7	0.002	0.00197	0.006	No	12	0.001998	0.00000866	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-1	0.003041	0.002155	0.035	No	16	0.002621	0.0007343	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.0019	0.00053	0.035	No	16	0.001732	0.001673	18.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-2	0.005	0.00065	0.035	No	16	0.003881	0.002004	75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.0018	0.0013	0.035	No	16	0.001721	0.000926	6.25	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-7	0.005	0.00066	0.035	No	16	0.002664	0.00214	43.75	None	No	0.01	NP (normality)
Arsenic (mg/L)	MGWC-8	0.005	0.00059	0.035	No	16	0.004164	0.001798	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	MGWC-1	0.12	0.095	2	No	16	0.1071	0.01877	0	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-12	0.06203	0.04733	2	No	16	0.05468	0.01129	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05588	0.0498	2	No	16	0.05284	0.004671	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1519	0.136	2	No	16	0.1439	0.0122	0	None	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.015	0.0098	2	No	16	0.01324	0.007627	6.25	None	No	0.01	NP (normality)
Barium (mg/L)	MGWC-8	0.03769	0.03386	2	No	16	0.03578	0.00294	0	None	No	0.01	Param.
Beryllium (mg/L)	MGWC-1	0.013	0.00018	0.004	No	14	0.01208	0.003426	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.013	0.00031	0.004	No	14	0.01209	0.003392	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.0019	0.00049	0.004	No	14	0.002679	0.004398	14.29	None	No	0.01	NP (normality)
Cadmium (mg/L)	MGWC-1	0.013	0.0005	0.005	No	16	0.01061	0.005134	81.25	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.003546	0.001353	0.005	No	16	0.002607	0.001997	0	None	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-8	0.013	0.00044	0.005	No	16	0.005282	0.006178	37.5	None	No	0.01	NP (normality)
Chromium (mg/L)	MGWC-1	0.0036	0.002	0.1	No	14	0.002114	0.0004276	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-12	0.0032	0.002	0.1	No	14	0.002086	0.0003207	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-2	0.0033	0.002	0.1	No	14	0.002093	0.0003474	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-3	0.003	0.002	0.1	No	14	0.002071	0.0002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-7	0.0034	0.0015	0.1	No	14	0.002064	0.0004069	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	MGWC-8	0.0031	0.002	0.1	No	14	0.002079	0.000294	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-1	0.0025	0.0004	0.0025	No	16	0.001765	0.0009996	62.5	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MGWC-12	0.0025	0.00016	0.0025	No	16	0.002354	0.000585	93.75	None	No	0.01	NP (NDs)
<b>Cobalt (mg/L)</b>	<b>MGWC-2</b>	<b>0.00349</b>	<b>0.002952</b>	<b>0.0025</b>	<b>Yes</b>	<b>16</b>	<b>0.003221</b>	<b>0.0004134</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Cobalt (mg/L)	MGWC-3	0.00068	0.0005	0.0025	No	16	0.0009387	0.0007782	18.75	None	No	0.01	NP (normality)
<b>Cobalt (mg/L)</b>	<b>MGWC-7</b>	<b>0.0107</b>	<b>0.008314</b>	<b>0.0025</b>	<b>Yes</b>	<b>16</b>	<b>0.009375</b>	<b>0.002034</b>	<b>0</b>	<b>None</b>	<b>x*2</b>	<b>0.01</b>	<b>Param.</b>
<b>Cobalt (mg/L)</b>	<b>MGWC-8</b>	<b>0.019</b>	<b>0.0038</b>	<b>0.0025</b>	<b>Yes</b>	<b>16</b>	<b>0.01121</b>	<b>0.007422</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.64	1.08	5	No	16	1.327	0.3151	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.6982	0.3727	5	No	16	0.5354	0.2501	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.726	0.4138	5	No	16	0.5699	0.24	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.641	1.369	5	No	16	1.505	0.2091	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.309	0.8683	5	No	16	1.089	0.339	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	2.009	1.423	5	No	16	1.716	0.45	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-1	0.2569	0.1556	4	No	15	0.2063	0.07479	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.258	0.2006	4	No	15	0.2293	0.04234	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.2	0.076	4	No	15	0.1464	0.06142	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-3	0.2	0.073	4	No	15	0.1416	0.06414	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-7	0.3654	0.2204	4	No	15	0.2929	0.107	0	None	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.2	0.088	4	No	15	0.1245	0.04492	20	None	No	0.01	NP (normality)
Lead (mg/L)	MGWC-12	0.001	0.0001	0.001	No	12	0.000925	0.0002598	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MGWC-7	0.001	0.0003	0.001	No	12	0.0009417	0.0002021	91.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01278	0.01041	0.03	No	16	0.01163	0.001897	6.25	None	sqrt(x)	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02189	0.01478	0.03	No	16	0.01834	0.005465	0	None	No	0.01	Param.
Lithium (mg/L)	MGWC-2	0.0074	0.0047	0.03	No	16	0.006061	0.002012	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	MGWC-3	0.01368	0.01097	0.03	No	16	0.01233	0.002076	0	None	No	0.01	Param.
<b>Lithium (mg/L)</b>	<b>MGWC-7</b>	<b>0.13</b>	<b>0.11</b>	<b>0.03</b>	<b>Yes</b>	<b>16</b>	<b>0.1208</b>	<b>0.02225</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Lithium (mg/L)	MGWC-8	0.04014	0.02762	0.03	No	16	0.03388	0.009623	0	None	No	0.01	Param.
Mercury (mg/L)	MGWC-12	0.0002	0.000086	0.002	No	14	0.0001829	0.00004364	85.71	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0002	0.0001	0.002	No	14	0.0001841	0.00004054	85.71	None	No	0.01	NP (NDs)

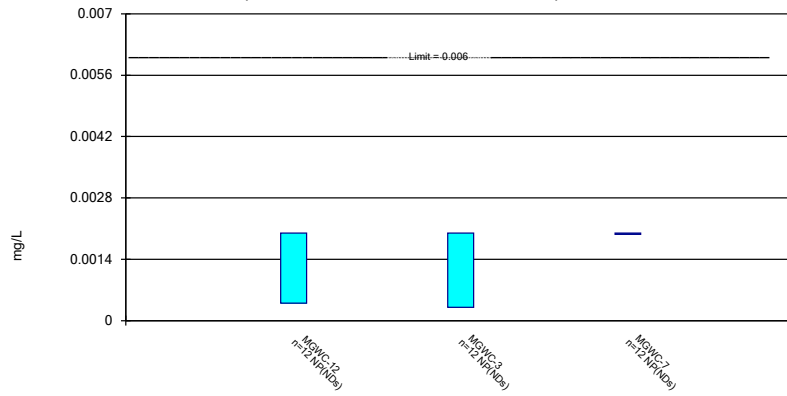
# State Confidence Intervals - All Results

Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond Printed 5/28/2020, 9:41 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Mercury (mg/L)	MGWC-3	0.0002	0.00007	0.002	No 14	0.0001907	0.00003474	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0002	0.00008	0.002	No 14	0.0001914	0.00003207	92.86	None	No	0.01	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.00012	0.002	No 14	0.0002097	0.0001581	42.86	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-1	0.015	0.0012	0.015	No 14	0.005391	0.006316	28.57	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.015	0.002	0.015	No 14	0.01211	0.005737	78.57	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.015	0.00351	0.015	No 14	0.01418	0.003071	92.86	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.015	0.0037	0.015	No 14	0.01419	0.00302	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-1	0.001	0.00014	0.002	No 14	0.0007604	0.0003966	71.43	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-12	0.001	0.00015	0.002	No 14	0.0009393	0.0002272	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-2	0.001	0.00021	0.002	No 14	0.0009436	0.0002111	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-3	0.001	0.00037	0.002	No 14	0.000895	0.0002701	85.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MGWC-8	0.0004022	0.0001433	0.002	No 14	0.00032	0.0003001	14.29	None	In(x)	0.01	Param.

### Non-Parametric Confidence Interval

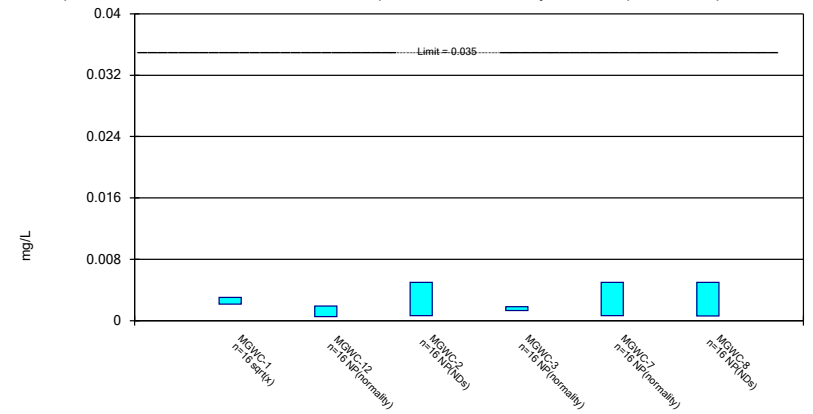
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

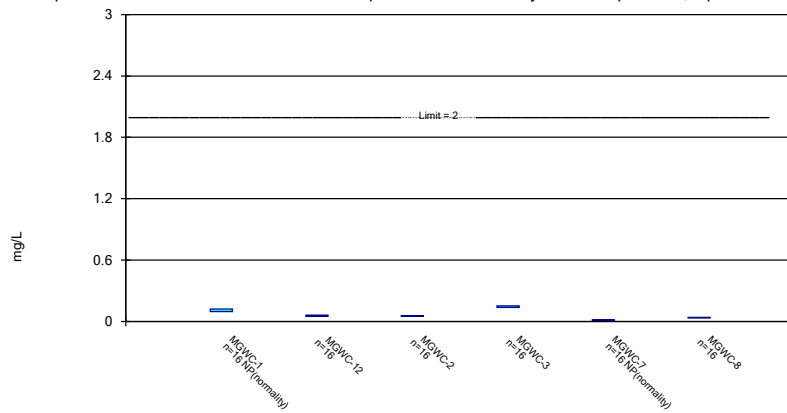
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

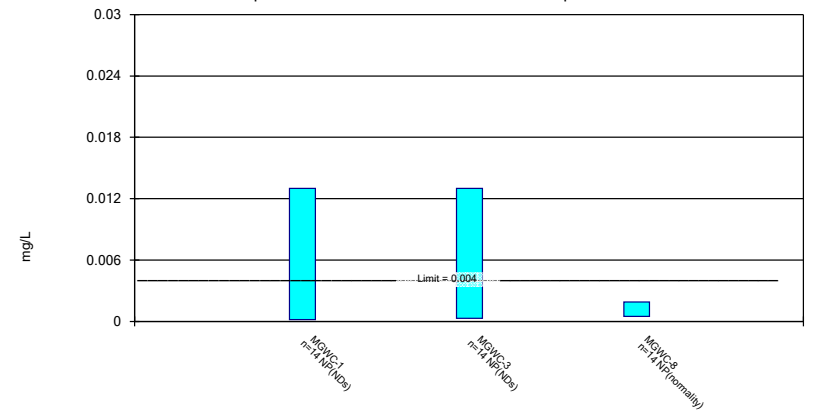
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Non-Parametric Confidence Interval

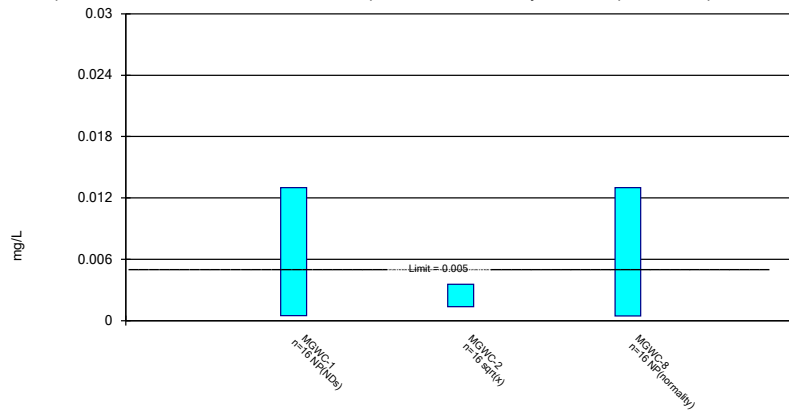
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

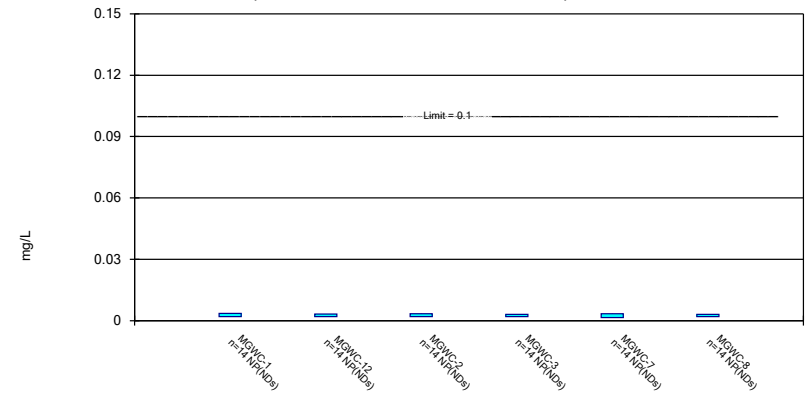
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Non-Parametric Confidence Interval

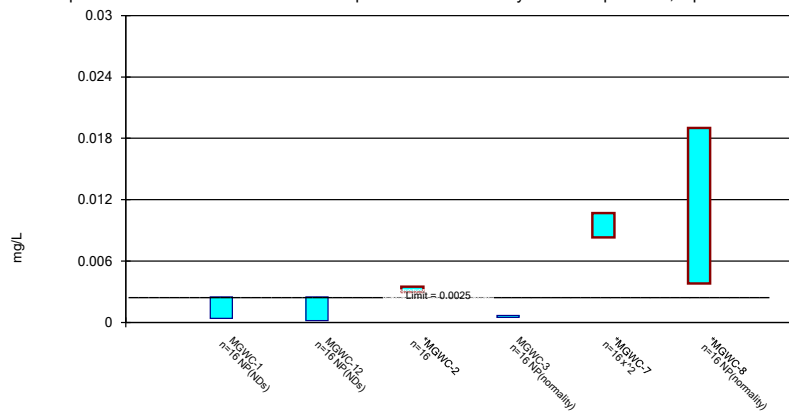
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

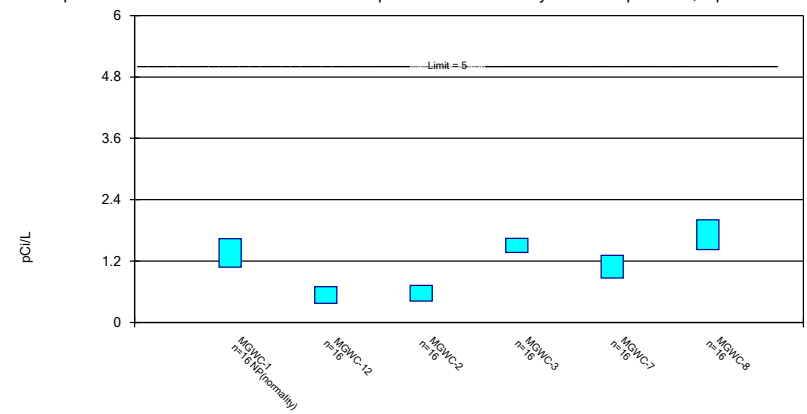
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

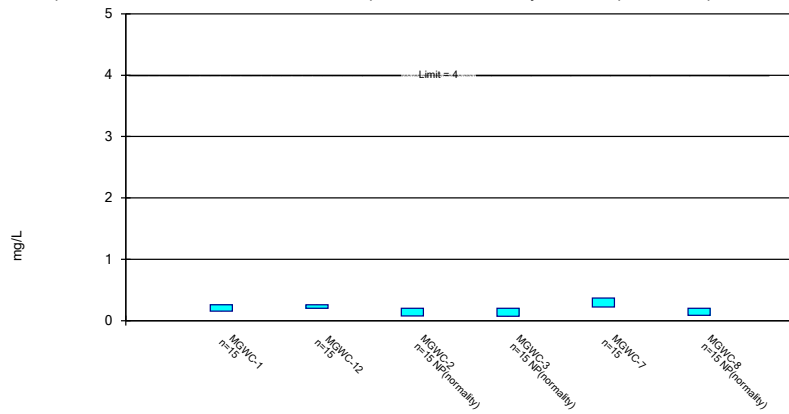


Constituent: Combined Radium 226 + 228 Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond



Parametric and Non-Parametric (NP) Confidence Interval

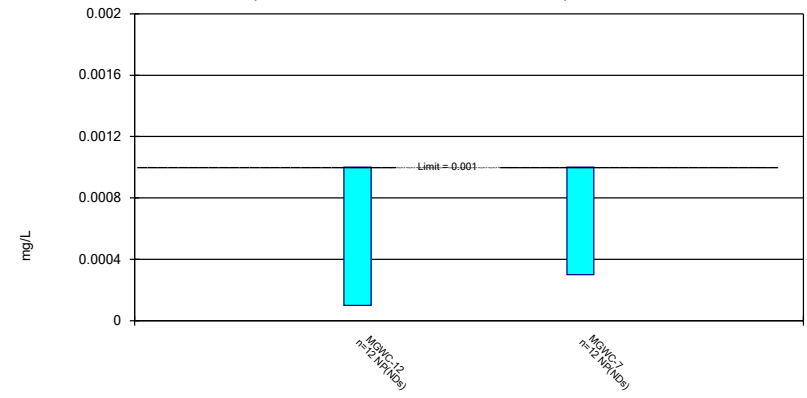
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Non-Parametric Confidence Interval

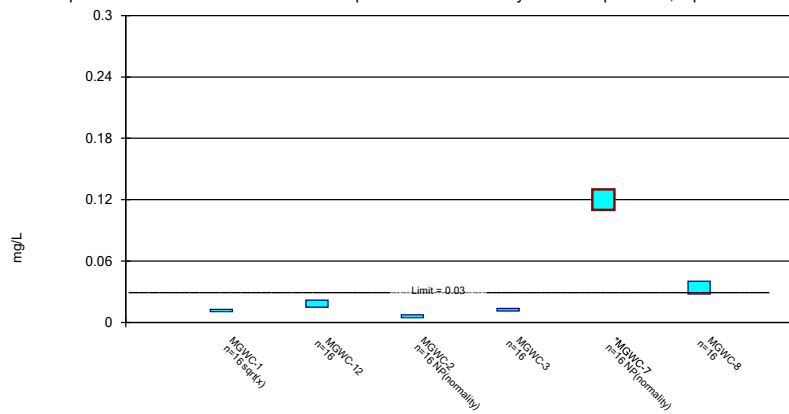
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

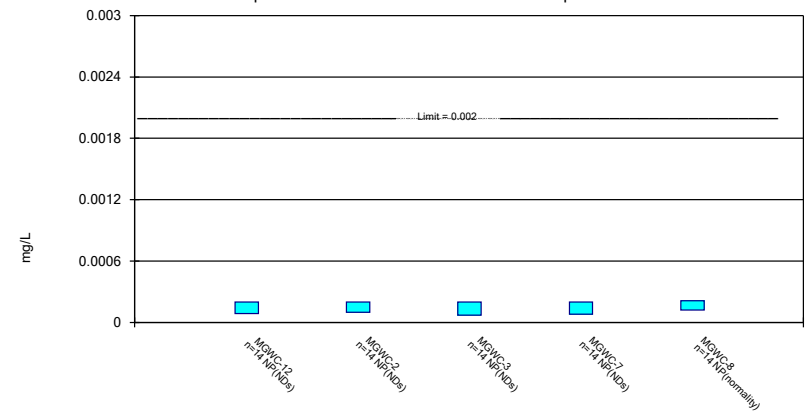
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

Non-Parametric Confidence Interval

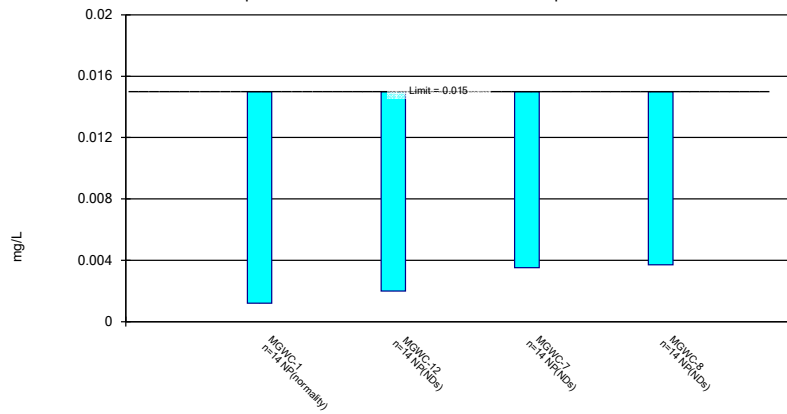
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Non-Parametric Confidence Interval

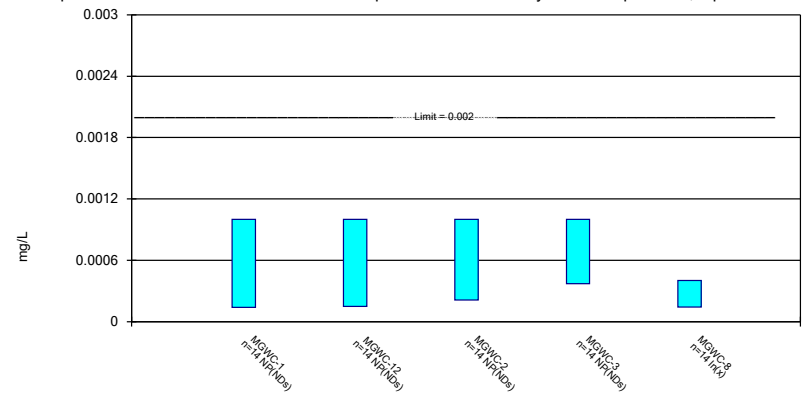
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Molybdenum Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 5/28/2020 9:38 AM View: Appendix IV  
 Plant McIntosh Client: Southern Company Data: McIntosh Ash Pond



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